

**CECOS**  
INTERNATIONAL

5092 Aber Road  
Williamsburg, Ohio 45176  
513/724-6114

December 10, 2015

Mr. David Petrovsky  
United States Environmental Protection Agency  
Region 5, Attn: DRE-9J  
77 West Jackson Boulevard  
Chicago, IL 60604-3590

**RE: Administrative Order on Consent, O&M Progress Report No. 39  
CECOS International, Inc. Docket No. V-W-024-94  
EPA I.D. No. OHD 087 433 744**

Dear Mr. Petrovsky:

As required by Section VIII.E and XIV. 6 of the above referenced Consent Order, CECOS International, Inc. (CECOS) is submitting to Region 5 of the United States Environmental Protection Agency (U.S. EPA) the O&M Progress Report for the period of June 2015 through November 2015. This progress report has been formatted to conform to the requirements of Attachment A to the Consent Order and is being submitted on a semiannual basis as requested in U.S. EPA's August 4, 1998 letter approving the CMI CC Report.

1. Description of CMI O&M Activities Completed:

A. General O&M Activity:

During the months of June 2015 through November 2015, CECOS operated the CMI area leachate pumps in accordance with the CMI O&M Manual. The CMI groundwater gradient control pumps were not operated this period in accordance with the approval from U.S. EPA to shut down the gradient control system dated March 31, 2009.

B. Leachate/Groundwater Pumping:



Recycled Paper

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During the six-month period covered by this report, 42,000 gallons of leachate were pumped from the CMI area. No CMI groundwater was pumped or shipped off-site for disposal. A total of 40,000 gallons of CMI leachate was shipped directly off-site for disposal. An additional volume of purge water generated from the sampling of the underdrains and CMI wells was combined with the CMI leachate since the groundwater gradient control system has been shutdown.

At the Leachate Treatment System (LTS), 140,828 gallons of leachate influent was added to the system this period. A total of 151,760 gallons of LTS effluent were produced along with 1,210 gallons of solids. A total of 140,000 gallons of treated leachate were shipped off site during the period. The primary source of the leachate treated at the LTS was 119,822 gallons of leachate that was pumped from the closed RCRA disposal units to the Leachate Accumulation Points (LAPs) from June 2015 through November 2015. A total of 120,640 gallons of leachate was transferred from the LAPs to the LTS. A summary of the leachate and groundwater pumping for the period is included as Exhibit No. 1. Another 20,217 gallons of leachate was pumped during the period using the vacuum truck from sumps, discharge lines, side risers, and other miscellaneous locations.

**C. Groundwater Monitoring:**

A CMI Post Shutdown Monitoring Event was conducted in October 2015. Sampling of wells both inside and outside of the slurry wall was scheduled for the COI/TCL parameter list.

**D. Reports and Other Submissions:**

The 38<sup>th</sup> O&M Progress Report for CMI operations at Aber Road was submitted to U.S. EPA by June 10, 2015.

**2. Summary of Findings:**

Data validation was performed this period on groundwater samples collected during the April 2015 CMI monitoring event. In April 2015, no COI compounds were confirmed detected at any sampling location outside the slurry wall. Wells outside the slurry wall were analyzed in April 2015 for the applicable VOC compounds on the COI list. One well located inside the slurry wall (MP-246) was sampled in April 2015. MP-246 had 4 COI compounds detected that exceeded the

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CMI Cleanup Standard. The data validation summary report for the April 2015 monitoring event is included in this report in Exhibit No. 4.

3. Summary of CMI Changes:

None.

4. Summary of Contacts:

None.

5. Summary of Problems:

None.

6. Actions to Rectify Problems:

None.

7. Changes in Key Project Personnel:

None.

8. Projected Work for Next Period:

- A. Continue leachate and groundwater management activities as required.
- B. Continue CMI operations and maintenance as required.
- C. Perform CMI Performance Monitoring in April 2016.





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9. Copies of Reports, Data, Etc.:

- A. A summary of leachate management activities, including volumes of leachate pumped, treated, and shipped off-site is included in Exhibit No. 1.
- B. A summary of groundwater head levels across the slurry wall for October 2015 are included in Exhibit No. 2. While the groundwater gradient control wells are shut down, the performance standard for groundwater gradient levels across the slurry wall does not apply.
- C. Information regarding methane gas monitoring, leachate level measurements and leachate pumping activity at the Sanitary Landfill is included in Exhibit No. 3. Recent analytical reports for monitoring well MP-290B are also included in Exhibit No. 3. The only COI compounds detected above the reporting limit in well MP-290B were chloroethane and cis-1,2-dichloroethene. Both compounds were found at levels well below their respective Cleanup Standard listed in the CMI O&M Manual during the July and October 2015 sampling events. No "J" values for any VOC were reported in the July or October 2015 results. All other VOC compounds were reported to be not detected (ND).
- D. A data validation report prepared by SCS Engineers for the April 2015 CMI sampling event is presented in Exhibit No. 4.
- E. The report entitled "Exhibit 5 Corrective Measures Implementation Performance Monitoring Evaluation" prepared by Eagon & Associates is included as Exhibit No. 5. This report includes an evaluation of the October 2015 groundwater data with comparisons to the groundwater cleanup standards and concentration-based performance standards (CBPS) and Screening Levels in the revised CMI O&M Manual.

10. Other items.

- A. A field sampling audit was performed by Matthew Barnett of The Mannik & Smith Group, Inc. in October 2015 for the groundwater sampling activities in the Aber Road CMI area. The audit was performed as described in the QAPjP. A copy of the audit report is included as Exhibit No. 6.

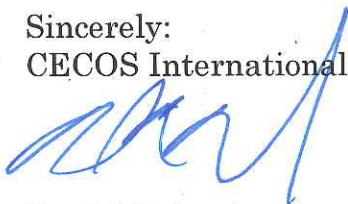


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- B. An audit was performed of the Aber Road Contract Laboratory for their analysis of the October 2015 event groundwater samples. The audit was performed by Trillium, Inc. and included a review of Performance Evaluation (PE) samples that were submitted to the lab for blind analysis. A copy of the report is included as Exhibit No. 7.
- C. Organic vapor pressure testing of the Aber Road leachate treatment system influent was performed in July 2015. A copy of the test report is included as Exhibit No. 8. The result of the analysis was a leachate organic vapor pressure of 0.027 psi, well below the rule applicability threshold level in 40CFR 60, Subpart Kb of 3.5 kPa (0.508 psi). The duplicate sample had a result of 0.021 psi, also below the applicable regulatory threshold listed in Subpart Kb.

If you have any questions or comments, please feel free to contact the Aber Road facility at (513) 724-6114.

Sincerely:  
CECOS International, Inc.



Daniel Deborde  
Project Coordinator

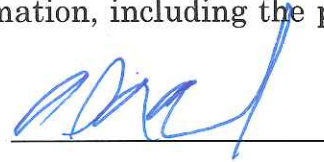
CY: J. Lee, USEPA Region 5  
S. Rabolt, Clermont County  
M. Gibson, Eagon & Associates  
G. Saylor, SCS Engineers  
T. Hull, Ohio EPA SWDO  
File M.3.3



**DOCUMENT CERTIFICATION****DOCUMENT NAME: O&M PROGRESS REPORT No. 39**

"I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to evaluate the information submitted. I certify that the information contained in or accompanying this submittal is true, accurate, and complete. As to those identified portion(s) of this submittal for which I cannot personally verify the accuracy, I certify that this submittal and all attachments were prepared in accordance with procedures designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, or the immediate supervisor of such person(s), the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature: \_\_\_\_\_



Name: \_\_\_\_\_

Daniel Deborde

Title: \_\_\_\_\_

Project Coordinator

Date: \_\_\_\_\_

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**EXHIBIT NO. 1**

## **CMI Semi-Annual O&M Report**

### **Leachate/Groundwater Volumes (Gallons)**

#### **CMI Leachate/Groundwater Summary**

Month	Leachate Pumped	Transferred	GW Pumped	GW Shipped Offsite
Jun-15	4,022	5,000	0	0
Jul-15	11,843	10,000	0	0
Aug-15	5,414	5,000	0	0
Sep-15	4,586	5,000	0	0
Oct-15	10,485	10,000	0	0
Nov-15	5,650	5,000	0	0
<b>Total</b>	<b>42,000</b>	<b>40,000</b>	<b>0</b>	<b>0</b>

#### **Leachate Treatment (LTS) Summary**

Month	LTS Influent	LTS Effluent	Solids Produced	Leachate Shipped
Jun-15	27,527	29,576	110	20,000
Jul-15	31,049	32,770	55	30,000
Aug-15	20,200	21,668	385	35,000
Sep-15	17,527	18,906	220	20,000
Oct-15	28,125	30,679	220	10,000
Nov-15	16,400	18,161	220	25,000
<b>Total</b>	<b>140,828</b>	<b>151,760</b>	<b>1,210</b>	<b>140,000</b>



## CMI Semi-Annual O&M Report

### Leachate/Groundwater Volumes (Gallons)

#### Leachate Accumulation Point (LAP) Summary

June 2015

Tank	Leachate Pumped	Transfer to LTS	Standpipes
T-104	1,061	1,475	L-25, 26, 27
T-105	8,205	11,800	L-34, 35, 36
T-108	2,411	3,400	L-20, 21/22, 23/24
T-109	1,510	2,725	L-15, 18, 19
T-110	1,445	2,050	L-16, 17
T-111	1,745	2,100	L-5, 6, 11, 14
T-112	3,823	5,100	L-3, 4, 7, 8, 9, 10, 12, 13

**Total            20,200            28,650**

July 2015

Tank	Leachate Pumped	Transfer to LTS	Standpipes
T-104	1,264	525	L-25, 26, 27
T-105	8,725	4,000	L-34, 35, 36
T-108	4,180	3,325	L-20, 21/22, 23/24
T-109	3,042	2,600	L-15, 18, 19
T-110	1,210	1,100	L-16, 17
T-111	2,342	2,100	L-5, 6, 11, 14
T-112	5,502	4,400	L-3, 4, 7, 8, 9, 10, 12, 13

**Total            26,265            18,050**

August 2015

Tank	Leachate Pumped	Transfer to LTS	Standpipes
T-104	1,734	1,975	L-25, 26, 27
T-105	12,832	13,450	L-34, 35, 36
T-108	3,898	3,625	L-20, 21/22, 23/24
T-109	1,685	1,700	L-15, 18, 19
T-110	905	875	L-16, 17
T-111	2,083	1,875	L-5, 6, 11, 14
T-112	4,885	4,625	L-3, 4, 7, 8, 9, 10, 12, 13

**Total            28,022            28,125**

**September 2015**

Tank	Leachate Pumped	Transfer to LTS	Standpipes
T-104	348	575	L-25, 26, 27
T-105	3,882	5,650	L-34, 35, 36
T-108	1,124	1,600	L-20, 21/22, 23/24
T-109	626	775	L-15, 18, 19
T-110	354	400	L-16, 17
T-111	469	700	L-5, 6, 11, 14
T-112	1,999	2,550	L-3, 4, 7, 8, 9, 10, 12, 13

**Total            8,802                    12,250**

**October 2015**

Tank	Leachate Pumped	Transfer to LTS	Standpipes
T-104	1,052	1,255	L-25, 26, 27
T-105	8,107	8,600	L-34, 35, 36
T-108	2,120	625	L-20, 21/22, 23/24
T-109	1,140	1,300	L-15, 18, 19
T-110	629	750	L-16, 17
T-111	1,461	1,450	L-5, 6, 11, 14
T-112	3,676	3,800	L-3, 4, 7, 8, 9, 10, 12, 13

**Total            18,185                    17,780**

**November 2015**

Tank	Leachate Pumped	Transfer to LTS	Standpipes
T-104	1,015	670	L-25, 26, 27
T-105	7,412	5,975	L-34, 35, 36
T-108	2,810	3,725	L-20, 21/22, 23/24
T-109	1,104	815	L-15, 18, 19
T-110	661	350	L-16, 17
T-111	1,521	1,250	L-5, 6, 11, 14
T-112	3,825	3,000	L-3, 4, 7, 8, 9, 10, 12, 13

**Total            18,348                    15,785**

**EXHIBIT NO. 2**

**OCTOBER 2015 GRADIENT ANALYSIS  
CECOS INTERNATIONAL, INC. ABER ROAD FACILITY**

Location	Zone	Nested Pair Number	Inside/Outside Slurry Wall	Top of Casing Elevation (ft., MSL)	Depth to Water (ft.)	Ground-Water Elevation (ft., MSL)	Elevation Differential (ft.)
USPZ-1	US	1	Inside	908.00	7.61	900.39	-2.00
MP-303B	US		Outside	906.24	7.85	898.39	
880PZ-1	880	2	Inside	908.49	8.30	900.19	-3.00
MP-208	880		Outside	907.57	10.38	897.19	
880PZ-2	880	3	Inside	907.11	6.13	900.98	4.00
MP-305A	880		Outside	908.11	3.13	904.98	
880PZ-3	880	4	Inside	915.45	9.63	905.82	0.61
MP-238AR	880		Outside	916.36	9.93	906.43	
880PZ-4	880	5	Inside	909.45	6.59	902.86	-1.52
MP-304A	880		Outside	908.42	7.08	901.34	
880PZ-5	880	6	Inside	914.42	9.77	904.65	-4.60
MP-241AR	880		Outside	916.39	16.34	900.05	

*Notes:*

*A positive differential indicates an inward gradient*

*US=Upper Sand Zone*

*880=880 Sand Zone*

*Water Levels Measured October 12, 2015*



**EXHIBIT NO. 3**

# LEACHATE HEAD LEVELS

June 2015

WELL	DATE: 06/03/15	DATE: 6/9/15	DATE: 6/16/15	DATE: 6/23/15	DATE: 6/29/15
1	1.8	1.8	1.8	1.8	1.7
2	2.0	12.2/2.0 A	1.2	2.0	1.8
3	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned
4	1.9	2.0	1.8	1.6	1.9
5	2.2	2.2	2.0	1.8	2.1
6	1.6	1.7	1.5	1.5	1.6
7	2.1	2.1	1.8	1.8	2.1
8	1.0	0.9	1.5	1.5	1.0
9	1.5	1.6	1.9	2.0	1.5
10	1.3	1.4	1.7	2.2	1.7
11	2.1	1.6	1.4	1.5	2.1
12	1.1	1.1	1.1	1.1	1.1
13	1.6	2.1	1.5	1.5	1.7
14	1.7	1.6	1.7	1.7	1.6
15	1.7	1.9	1.8	1.9	1.6
16	1.5	2.1	2.0	1.7	2.1
17	1.4	1.5	1.8	1.7	1.4
18	1.9	1.9	1.9	1.8	1.8
19	2.0	2.5/1.7 A	2.0	1.5	1.5
20	5.9/1.2 A	8.9/1.8 A	1.6	1.6	1.2
21	1.7	1.8	2.0	1.6	1.9
22	1.5	1.6	1.5	1.6	1.5
23	1.5	1.6	1.4	1.4	1.4
24	1.4	1.5	1.3	1.3	1.4
1B	1.6	1.9	1.5	1.5	2.0
2B	1.9	5.9/2.1 A	5.7/1.7 A	2.1	1.7

A - Reset Coyote

## MEMORANDUM

**TO:** Dan Deborde  
**FROM:** Doug Kattwinkel  
**SUBJECT:** Sanitary Landfill System Report for the Month of June 2015  
**DATE:** July 2, 2015

### Gas System Operation

The system was operational 1\* day out of a possible 30 days. The system operated a total 3 hours for the month out of a possible 720 hours. The gas system operation averages for the month of June are 25% methane and 839°F flare temperature. \*Approximate runtime flare down frequently due to low gas production.

1. Explosive Gas Monitoring System: Gas monitoring for the semi-annual was completed May 28, 2015.
2. Gas Wells: The gas wells are functioning correctly with regular pumping of condensate drains.
3. Header Lines: The header lines are functioning correctly.
4. Condensate Drains: All the condensate drains (CD) are working properly.
5. Knock Out Pot: The knock out pot remained dry the entire month.
6. Blower: The blower is functioning correctly.
7. Electric Controls: All electric controls are working properly.
8. Flare Assembly: The flare assembly is working correctly.

### Cap Maintenance

Landfill cap in good condition.

### Sanitary Leachate Collection System

The sanitary landfill dewatering system was operational all days during the month of June. The monthly summary for leachate levels are attached for your review.

A total of 42,000 gallons of sanitary leachate was shipped off site for disposal during the month of June. All 42,000 gallons were disposed at the Lower East Fork WWTP. All leachate wells are functioning. The leachate head levels remain below the approved alternate levels.

DK/dd  
Cy: File (H.6)

**LEACHATE HEAD LEVELS**  
**July 2015**

WELL	DATE: 07/10/15	DATE: 07/14/15	DATE: 07/15/14	DATE: 07/22/15	DATE: 07/28/15
1	1.7	1.7	1.8	2.0	1.9
2	1.8	8.6/1.6 A	1.1	15.2/1.2 A	2.2
3	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned
4	1.8	1.9	1.9	1.9	1.9
5	2.0	2.2	2.2	2.2	2.2
6	1.6	1.6	1.5	1.6	1.6
7	2.1	2.1	2.0	2.1	2.1
8	1.0	1.0	1.2	1.0	1.0
9	1.5	1.5	1.4	1.5	1.5
10	1.6	1.4	1.3	1.4	1.7
11	2.1	1.8	1.9	2.0	2.1
12	1.1	1.1	1.1	1.0	1.1
13	1.6	2.1	9.1/1.5 A	11.1/1.5 A	1.5
14	1.3	1.3	1.7	2.0	1.9
15	1.7	1.7	1.7	1.6	1.4
16	1.5	1.8	2.0	2.2	2.0
17	1.4	1.6	1.5	1.6	1.5
18	1.8	1.8	1.8	1.9	2.1
19	1.5	2.0	1.5	1.5	1.5
20	4.9/1.6 A	1.1	5.0/1.6 A	9.6/1.2 B	3.4/1.6 A
21	2.0	11.3/1.7 B	1.7	1.5	2.0
22	1.5	1.7	1.5	1.5	1.6
23	1.5	1.5	1.5	1.5	1.5
24	1.4	1.4	1.4	1.4	1.4
1B	1.4	2.0	1.5	1.5	1.8
2B	1.7	1.8	1.7	1.8	1.7

A - Reset Coyote  
B - Installed New Pump



## MEMORANDUM

**TO:** Dan Deborde  
**FROM:** Doug Kattwinkel  
**SUBJECT:** Sanitary Landfill System Report for the Month of July 2015  
**DATE:** July 31, 2015

### Gas System Operation

The system was operational 1\* day out of a possible 31 days. The system operated a total 1.5 hours for the month out of a possible 744 hours. The gas system operation averages for the month of July are 25.3% methane and 957°F flare temperature. \*Approximate runtime flare down frequently due to low gas production.

1. Explosive Gas Monitoring System: Gas monitoring for the semi-annual was completed May 28, 2015.
2. Gas Wells: The gas wells are functioning correctly with regular pumping of condensate drains.
3. Header Lines: The header lines are functioning correctly.
4. Condensate Drains: All the condensate drains (CD) are working properly.
5. Knock Out Pot: The knock out pot remained dry the entire month.
6. Blower: The blower is functioning correctly.
7. Electric Controls: All electric controls are working properly.
8. Flare Assembly: The flare assembly is working correctly.

### Cap Maintenance

Landfill cap in good condition.

### Sanitary Leachate Collection System

The sanitary landfill dewatering system was operational all days during the month of July. The monthly summary for leachate levels are attached for your review.

A total of 150,000 gallons of sanitary leachate was shipped off site for disposal during the month of July. All 150,000 gallons were disposed at the Lower East Fork WWTP. All leachate wells are functioning. The leachate head levels remain below the approved alternate levels.

DK/dd

Cy: File (H.6)

**LEACHATE HEAD LEVELS**  
**August 2015**

<b>WELL</b>	<b>DATE: 08/4/15</b>	<b>DATE: 08/11/15</b>	<b>DATE: 08/18/15</b>	<b>DATE: 08/25/15</b>
1	1.8	1.8	1.9	1.8
2	1.2	1.9	1.6	1.6
3	Abandoned	Abandoned	Abandoned	Abandoned
4	1.9	1.9	1.9	1.7
5	2.2	2.1	2.2	1.8
6	1.6	1.6	1.6	1.5
7	2.1	2.0	2.1	1.8
8	1.0	1.0	1.0	1.0
9	1.5	1.5	1.5	1.5
10	1.7	1.6	1.7	1.7
11	2.1	1.9	2.0	1.7
12	1.1	1.1	1.1	1.1
13	1.6	1.5	1.5	1.5
14	1.8	1.7	1.7	1.6
15	1.7	1.8	1.8	1.8
16	2.1	2.0	1.7	1.7
17	1.5	1.6	1.5	1.4
18	2.0	2.1	2.0	1.8
19	1.5	1.5	1.5	1.5
20	3.4/1.2 A	3.3/1.4 A	1.9	1.9
21	1.8	1.9	1.7	1.5
22	1.6	1.6	1.4	1.4
23	1.5	1.5	1.4	1.4
24	1.5	1.4	1.6	1.3
1B	1.9	1.5	1.5	1.5
2B	1.7	1.7	1.8	1.7

A - Reset Coyote

## MEMORANDUM

**TO:** Dan Deborde  
**FROM:** Doug Kattwinkel  
**SUBJECT:** Sanitary Landfill System Report for the Month of August 2015  
**DATE:** August 31, 2015

### Gas System Operation

The system was operational 1\* day out of a possible 31 days. The system operated a total 2 hours for the month out of a possible 744 hours. The gas system operation averages for the month of August are 13.5% methane and 1260°F flare temperature. \*Approximate runtime flare down frequently due to low gas production.

1. Explosive Gas Monitoring System: Gas monitoring for the semi-annual was completed May 28, 2015.
2. Gas Wells: The gas wells are functioning correctly with regular pumping of condensate drains.
3. Header Lines: The header lines are functioning correctly.
4. Condensate Drains: All the condensate drains (CD) are working properly.
5. Knock Out Pot: The knock out pot remained dry the entire month.
6. Blower: The blower is functioning correctly.
7. Electric Controls: All electric controls are working properly.
8. Flare Assembly: The flare assembly is working correctly.

### Cap Maintenance

Landfill cap in good condition.

### Sanitary Leachate Collection System

The sanitary landfill dewatering system was operational all days during the month of August. The monthly summary for leachate levels are attached for your review.

A total of 60,000 gallons of sanitary leachate was shipped off site for disposal during the month of August. All 60,000 gallons were disposed at the Lower East Fork WWTP. All leachate wells are functioning. The leachate head levels remain below the approved alternate levels.

DK/dd  
Cy: File (H.6)

# LEACHATE HEAD LEVELS

September 2015

WELL	DATE: 09/01/15	DATE: 09/08/15	DATE: 09/15/15	DATE: 09/23/15
1	1.9	1.9	1.8	1.6
2	1.7	1.2	1.7	1.7
3	Abandoned	Abandoned	Abandoned	Abandoned
4	1.9	1.9	1.9	1.8
5	2.1	2.1	2.1	1.9
6	1.6	1.6	1.6	1.5
7	2.1	2.0	2.0	1.7
8	1.0	1.0	1.0	1.1
9	1.4	1.5	1.5	1.5
10	1.6	1.5	1.5	1.7
11	1.9	1.8	2.0	1.7
12	1.0	1.1	1.1	1.1
13	1.6	1.6	1.6	1.5
14	1.6	1.6	1.5	1.5
15	1.5	2.0	1.7	1.7
16	2.0	2.0	1.9	1.7
17	1.5	1.5	1.5	1.5
18	1.9	1.8	2.0	1.9
19	1.8	1.5	1.5	1.5
20	1.2	1.5	1.5	1.5
21	1.4	1.6	1.6	1.6
22	1.5	1.5	1.5	1.5
23	1.5	1.5	1.5	1.5
24	1.5	1.5	1.5	1.5
1B	1.4	1.4	1.3	1.3
2B	1.7	1.7	1.8	1.7

A - Reset Coyote



## MEMORANDUM

**TO:** Dan Deborde  
**FROM:** Doug Kattwinkel  
**SUBJECT:** Sanitary Landfill System Report for the Month of September 2015  
**DATE:** September 30, 2015

### Gas System Operation

The system was operational 1\* day out of a possible 30 days. The system operated a total 1.5 hours for the month out of a possible 720 hours. The gas system operation averages for the month September are 23.6% methane and 850°F flare temperature. \*Approximate runtime flare down frequently due to low gas production.

1. Explosive Gas Monitoring System: Gas monitoring for the semi-annual was completed May 28, 2015.
2. Gas Wells: The gas wells are functioning correctly with regular pumping of condensate drains.
3. Header Lines: The header lines are functioning correctly.
4. Condensate Drains: All the condensate drains (CD) are working properly.
5. Knock Out Pot: The knock out pot remained dry the entire month.
6. Blower: The blower is functioning correctly.
7. Electric Controls: All electric controls are working properly.
8. Flare Assembly: The flare assembly is working correctly.

### Cap Maintenance

Landfill cap in good condition.

### Sanitary Leachate Collection System

The sanitary landfill dewatering system was operational all days during the month of August. The monthly summary for leachate levels are attached for your review.

A total of 24,000 gallons of sanitary leachate was shipped off site for disposal during the month of September. All 24,000 gallons were disposed at the Lower East Fork WWTP. All leachate wells are functioning. The leachate head levels remain below the approved alternate levels.

DK/dd  
Cy: File (H.6)

## MEMORANDUM

**TO:** Dan Deborde  
**FROM:** Doug Kattwinkel  
**SUBJECT:** Sanitary Landfill System Report for the Month of October 2015  
**DATE:** October 31, 2015

### Gas System Operation

The system was operational 1\* day out of a possible 31 days. The system operated a total 1.5 hours for the month out of a possible 744 hours. The gas system operation averages for the month October are 11.85% methane and 659°F flare temperature. \*Approximate runtime flare down frequently due to low gas production.

1. Explosive Gas Monitoring System: Gas monitoring for the semi-annual was completed May 28, 2015.
2. Gas Wells: The gas wells are functioning correctly with regular pumping of condensate drains.
3. Header Lines: The header lines are functioning correctly.
4. Condensate Drains: All the condensate drains (CD) are working properly.
5. Knock Out Pot: The knock out pot remained dry the entire month.
6. Blower: The blower is functioning correctly.
7. Electric Controls: All electric controls are working properly.
8. Flare Assembly: The flare assembly is working correctly.

### Cap Maintenance

Landfill cap in good condition.

### Sanitary Leachate Collection System

The sanitary landfill dewatering system was operational all days during the month of August. The monthly summary for leachate levels are attached for your review.

A total of 24,000 gallons of sanitary leachate was shipped off site for disposal during the month of October. All 24,000 gallons were disposed at the Lower East Fork WWTP. All leachate wells are functioning. The leachate head levels remain below the approved alternate levels.

DK/dd  
Cy: File (H.6)

**LEACHATE HEAD LEVELS**  
**October 2015**

<b>WELL</b>	<b>DATE: 10/6/15</b>	<b>DATE: 10/15/15</b>	<b>DATE: 10/19/15</b>	<b>DATE: 10/27/15</b>
1	1.9	1.8	1.8	1.7
2	1.2	1.2	12.1/1.2 A	12.6/1.2 A
3	Abandoned	Abandoned	Abandoned	Abandoned
4	1.6	1.8	1.9	1.8
5	1.7	1.7	1.9	1.9
6	1.5	1.5	1.6	1.6
7	1.6	1.5	2.1	2.1
8	1.5	1.5	1.0	1.0
9	1.9	1.6	1.5	1.5
10	1.7	1.7	1.6	2.0
11	1.5	1.5	2.2	2.2
12	1.1	1.1	1.1	1.1
13	1.5	1.6	10.9/1.7 B	1.6
14	1.7	1.7	1.6	1.6
15	1.6	1.6	2.0	1.8
16	1.7	1.7	2.0	2.2
17	1.7	1.7	1.5	1.5
18	1.9	1.8	1.8	1.9
19	1.6	1.7	1.5	1.5
20	1.6	1.7	1.4	1.3
21	1.6	1.6	1.4	1.5
22	1.8	1.8	1.4	1.4
23	1.5	1.5	1.5	1.5
24	1.4	1.4	1.4	1.4
1B	1.5	1.5	1.4	1.4
2B	1.7	1.7	1.7	1.7

A - Reset Coyote

B - Install New Pump

## MEMORANDUM

**TO:** Dan Deborde  
**FROM:** Doug Kattwinkel  
**SUBJECT:** Sanitary Landfill System Report for the Month of November 2015  
**DATE:** December 8, 2015

### Gas System Operation

The system was operational 1\* day out of a possible 30 days. The system operated a total 2.5 hours for the month out of a possible 720 hours. The gas system operation averages for the month November are 14.5% methane and 675°F flare temperature. \*Approximate runtime flare down frequently due to low gas production.

1. Explosive Gas Monitoring System: Gas monitoring for the semi-annual was completed November 30, 2015.
2. Gas Wells: The gas wells are functioning correctly with regular pumping of condensate drains.
3. Header Lines: The header lines are functioning correctly.
4. Condensate Drains: All the condensate drains (CD) are working properly.
5. Knock Out Pot: The knock out pot remained dry the entire month.
6. Blower: The blower is functioning correctly.
7. Electric Controls: All electric controls are working properly.
8. Flare Assembly: The flare assembly is working correctly.

### Cap Maintenance

Landfill cap in good condition.

### Sanitary Leachate Collection System

The sanitary landfill dewatering system was operational all days during the month of November. The monthly summary for leachate levels are attached for your review.

A total of 36,000 gallons of sanitary leachate was shipped off site for disposal during the month of November. All 36,000 gallons were disposed at the Lower East Fork WWTP. All leachate wells are functioning. The leachate head levels remain below the approved alternate levels.

DK/dd  
Cy: File (H.6)



**LEACHATE HEAD LEVELS**  
**November 2015**

WELL	DATE: 11/3/15	DATE: 11/9/15	DATE: 11/17/15	DATE: 11/24/15
1	1.8	1.7	1.7	1.7
2	1.2	13.0/1.3 A	1.2	1.8
3	Abandoned	Abandoned	Abandoned	Abandoned
4	1.9	1.9	1.9	1.4
5	2.0	1.8	1.8	1.8
6	1.6	1.6	1.6	1.5
7	2.0	2.0	2.0	1.8
8	1.0	1.0	1.0	1.6
9	1.5	1.5	1.5	1.5
10	1.4	1.3	1.3	1.7
11	2.0	2.1	2.1	2.0
12	1.1	1.1	1.1	1.1
13	1.5	1.5	1.6	1.5
14	1.5	1.5	1.6	1.6
15	1.6	1.6	1.8	1.4
16	2.2	2.2	2.3	2.0
17	1.5	1.5	1.5	1.5
18	1.9	1.9	1.8	2.0
19	1.5	1.5	1.5	1.6
20	1.8	2.1	1.3	1.8
21	1.4	1.9	1.8	2.0
22	1.4	1.4	1.5	1.5
23	1.4	1.4	1.5	1.5
24	1.4	1.4	1.4	1.4
1B	1.4	1.5	1.3	1.8
2B	1.8	3.3/1.7 A	1.7	2.2

A - Reset Coyote

## Client Sample Results

Client: Republic Services Inc  
Project/Site: Aber Rd. Landfill - MP-290 analysis

TestAmerica Job ID: 480-84096-1

**Client Sample ID: MP-290B**

**Date Collected: 07/14/15 12:00**

**Date Received: 07/17/15 09:30**

**Lab Sample ID: 480-84096-1**

**Matrix: Water**

### Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	0.82	ug/L			07/18/15 00:01	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.21	ug/L			07/18/15 00:01	1
1,1-Dichloroethane	ND		2.0	0.38	ug/L			07/18/15 00:01	1
1,1-Dichloroethene	ND		2.0	0.29	ug/L			07/18/15 00:01	1
1,2-Dichloroethane	ND		2.0	0.21	ug/L			07/18/15 00:01	1
2-Hexanone	ND		10	1.2	ug/L			07/18/15 00:01	1
Acetone	ND		10	3.0	ug/L			07/18/15 00:01	1
Benzene	ND		2.0	0.41	ug/L			07/18/15 00:01	1
Bromoform	ND		2.0	0.26	ug/L			07/18/15 00:01	1
Bromomethane	ND		2.0	0.69	ug/L			07/18/15 00:01	1
Carbon disulfide	ND		2.0	0.19	ug/L			07/18/15 00:01	1
Chlorobenzene	ND		2.0	0.75	ug/L			07/18/15 00:01	1
Dibromochloromethane	ND		2.0	0.32	ug/L			07/18/15 00:01	1
<b>Chloroethane</b>	<b>15</b>		2.0	0.32	ug/L			07/18/15 00:01	1
Chloromethane	ND		2.0	0.35	ug/L			07/18/15 00:01	1
<b>cis-1,2-Dichloroethene</b>	<b>3.0</b>		2.0	0.81	ug/L			07/18/15 00:01	1
cis-1,3-Dichloropropene	ND		2.0	0.36	ug/L			07/18/15 00:01	1
Bromodichloromethane	ND		2.0	0.39	ug/L			07/18/15 00:01	1
Dichlorodifluoromethane	ND		2.0	0.68	ug/L			07/18/15 00:01	1
2-Butanone (MEK)	ND		10	1.3	ug/L			07/18/15 00:01	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.1	ug/L			07/18/15 00:01	1
Methylene Chloride	ND		2.0	0.44	ug/L			07/18/15 00:01	1
Styrene	ND		2.0	0.73	ug/L			07/18/15 00:01	1
Tetrachloroethene	ND		2.0	0.36	ug/L			07/18/15 00:01	1
trans-1,2-Dichloroethene	ND		2.0	0.90	ug/L			07/18/15 00:01	1
trans-1,3-Dichloropropene	ND		2.0	0.37	ug/L			07/18/15 00:01	1
Trichloroethene	ND		2.0	0.46	ug/L			07/18/15 00:01	1
Trichlorofluoromethane	ND		2.0	0.88	ug/L			07/18/15 00:01	1
Vinyl chloride	ND		2.0	0.90	ug/L			07/18/15 00:01	1
Xylenes, Total	ND		2.0	0.66	ug/L			07/18/15 00:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		86 - 118		07/18/15 00:01	1
Toluene-d8 (Surr)	105		88 - 110		07/18/15 00:01	1
4-Bromofluorobenzene (Surr)	110		86 - 115		07/18/15 00:01	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.78				SU			07/14/15 12:00	1
Field Conductivity	1426				umhos/cm			07/14/15 12:00	1
Field Temperature	16.1				Degrees C			07/14/15 12:00	1
Field Turbidity	2.56				NTU			07/14/15 12:00	1

TestAmerica Buffalo

## Client Sample Results

Client: Republic Services Inc  
Project/Site: Aber Rd. Landfill - MP-290B analysis

TestAmerica Job ID: 480-89202-1

**Client Sample ID: GW-101315AG-025**

**Date Collected: 10/13/15 09:34**

**Date Received: 10/15/15 07:15**

**Lab Sample ID: 480-89202-1**

**Matrix: Water**

### Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	0.82	ug/L			10/17/15 01:33	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.21	ug/L			10/17/15 01:33	1
1,1-Dichloroethane	ND		2.0	0.38	ug/L			10/17/15 01:33	1
1,1-Dichloroethene	ND		2.0	0.29	ug/L			10/17/15 01:33	1
1,2-Dichloroethane	ND		2.0	0.21	ug/L			10/17/15 01:33	1
2-Hexanone	ND		10	1.2	ug/L			10/17/15 01:33	1
Acetone	ND		10	3.0	ug/L			10/17/15 01:33	1
Benzene	ND		2.0	0.41	ug/L			10/17/15 01:33	1
Bromoform	ND		2.0	0.26	ug/L			10/17/15 01:33	1
Bromomethane	ND		2.0	0.69	ug/L			10/17/15 01:33	1
Carbon disulfide	ND		2.0	0.19	ug/L			10/17/15 01:33	1
Chlorobenzene	ND		2.0	0.75	ug/L			10/17/15 01:33	1
Dibromochloromethane	ND		2.0	0.32	ug/L			10/17/15 01:33	1
<b>Chloroethane</b>	<b>13</b>		2.0	0.32	ug/L			10/17/15 01:33	1
Chloromethane	ND		2.0	0.35	ug/L			10/17/15 01:33	1
<b>cis-1,2-Dichloroethene</b>	<b>2.8</b>		2.0	0.81	ug/L			10/17/15 01:33	1
cis-1,3-Dichloropropene	ND		2.0	0.36	ug/L			10/17/15 01:33	1
Bromodichloromethane	ND		2.0	0.39	ug/L			10/17/15 01:33	1
Dichlorodifluoromethane	ND		2.0	0.68	ug/L			10/17/15 01:33	1
2-Butanone (MEK)	ND		10	1.3	ug/L			10/17/15 01:33	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.1	ug/L			10/17/15 01:33	1
Methylene Chloride	ND		2.0	0.44	ug/L			10/17/15 01:33	1
Styrene	ND		2.0	0.73	ug/L			10/17/15 01:33	1
Tetrachloroethene	ND		2.0	0.36	ug/L			10/17/15 01:33	1
trans-1,2-Dichloroethene	ND		2.0	0.90	ug/L			10/17/15 01:33	1
trans-1,3-Dichloropropene	ND		2.0	0.37	ug/L			10/17/15 01:33	1
Trichloroethene	ND		2.0	0.46	ug/L			10/17/15 01:33	1
Trichlorofluoromethane	ND		2.0	0.88	ug/L			10/17/15 01:33	1
Vinyl chloride	ND		2.0	0.90	ug/L			10/17/15 01:33	1
Xylenes, Total	ND		2.0	0.66	ug/L			10/17/15 01:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		86 - 118		10/17/15 01:33	1
Toluene-d8 (Surr)	107		88 - 110		10/17/15 01:33	1
4-Bromofluorobenzene (Surr)	103		86 - 115		10/17/15 01:33	1

### Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.80				SU			10/13/15 09:34	1
Field Conductivity	1793				umhos/cm			10/13/15 09:34	1
Field Temperature	16.9				Degrees C			10/13/15 09:34	1
Field Turbidity	0.03				NTU			10/13/15 09:34	1

TestAmerica Buffalo

**EXHIBIT NO. 4**

## **EXHIBIT NO. 4**

### **LEVEL IV DATA VALIDATION SUMMARY REPORT**

#### **CMI MONITORING WELL SAMPLES**

**APRIL 2015**

#### **CECOS ABER ROAD FACILITY, WILLIAMSBURG, OHIO**

Level IV data validation has been completed for data generated by TestAmerica Laboratories, Inc. (TestAmerica), for selected Corrective Measure Implementation (CMI) monitoring well samples and associated field quality control samples collected from the CECOS International facility during April 2015. Data validation was performed as required by the CECOS International Quality Assurance Project Plan (QAPjP). In accordance with the CMI monitoring requirements and QAPjP, a minimum of 20 percent of all monitoring well samples collected in April 2015 received Level IV data validation. No CMI monitoring well samples were required to be collected in July 2015. A summary of the total set of samples validated is presented in Table 1. A glossary of the data validation qualifiers is presented as Table 2. A summary of the individual data validation summary reports attached to this report is included in Table 3.

Data validation was performed for these samples in accordance with the U.S. Environmental Protection Agency (USEPA) National Functional Guidelines, the respective analytical method, and/or the Data Validation Standard Operating Procedures as presented in the approved QAPjP. The latest version of the QAPjP (Revision 5) was submitted to USEPA in February 2006.

All CMI monitoring locations outside the slurry wall were sampled for the COI parameter list in April 2015. One CMI well located inside the slurry wall (MP-246) was also sampled in April. Level IV data validation was performed for these locations for those parameters stated in the facility's QAPjP. A total of fifteen monitoring wells were sampled and included in the CMI data package. Six associated field quality control samples were also collected during the April 2015 CMI monitoring event. TestAmerica Buffalo of Amherst, New York analyzed the samples using the analytical methods specified in the QAPjP.

The field quality control samples collected in April included:

- 2 Field blank samples
- 1 set of MS/MSD samples
- 1 Trip blank
- 2 Field duplicate samples

Field blanks, equipment blanks, field duplicates, and trip blanks were analyzed for the same parameters as their associated samples. The QAPjP also states that one set of MS/MSD samples be collected for every 20 samples. MS/MSD samples were submitted and analyzed by the lab and are indicated on the summary of samples received as being taken in well MP-238AR. All field Quality Control (QC) samples collected and analyzed met the Quality Assurance (QA) objectives specified in the QAPjP.

#### Limitations

Section 9, Data Reduction, Validation, and Reporting, within the QAPjP indicates that data reduction be conducted for field data and laboratory data; however, this report is limited to only the laboratory data. Additionally, the data quality assessment is limited to the review of off-site analytical laboratory data. This report addresses issues potentially impacting the usability of the laboratory data. If data validation findings were within acceptable criteria, limited discussion is presented. A discussion of data validation qualifiers (flags) applied to the data and reasons for the qualifiers are also presented. This report is organized by parameter groups.

Prepared by:  
SCS Engineers  
Project #05200007.02  
July 31, 2015

**TABLE 1**  
**SUMMARY OF CMI MONITORING WELL SAMPLES TO BE VALIDATED**

<b>SAMPLE ID</b>	<b>APRIL 2015</b>	<b>JULY 2015<sup>1</sup></b>
MP-207	COI/TCL	NS
MP-208	COI/TCL	NS
MP-238AR	COI/TCL	NS
MP-241AR	COI/TCL	NS
MP-249B	COI/TCL	NS
MP-275	COI/TCL	NS
MP-276	COI/TCL	NS
MP-299B	COI/TCL	NS
MP-303B	COI/TCL	NS
MP-304	COI/TCL	NS
MP-304A	COI/TCL	NS
MP-305	COI/TCL	NS
MP-305A	COI/TCL	NS
MP-306A	COI/TCL	NS
U-11	NS	NS
U-12	NS	NS
MP-202	NS	NS
MP-219A	NS	NS
MP-222B	NS	NS
MP-224B	NS	NS
MP-246	VOC <sup>2</sup>	NS
MP-248B	NS	NS

NS = Not Sampled for CMI

COI/TCL = Contaminants of Interest/Target Compound List in CMI O&M Manual

APPENDIX IX = 40 CFR 264 Appendix IX List of Compounds

**NOTES:**

1. The CMI Monitoring was revised in 2005 to only require semi-annual sampling. The sampling is performed in the months of April and October.
2. Well MP-246 was resampled in April 2015 for VOCs due to a Screening Level exceedance for 1,2-DCA in the October 2014 sampling results.

**TABLE 2**

**GLOSSARY OF DATA VALIDATION QUALIFIERS**

U	The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL.
R	The reported result has been qualified as unusable due to gross violations of one or more quality control criteria. This flag does not address the presence or absence of the analyte of concern rather it addresses one or more major QC problems associated with the reported result. If the analyte qualified is critical to the project, resampling and reanalysis of the qualified result may be required.
UU	The analyte was considered estimated non-detect. The associated numerical detection limit has been qualified as estimated due to a QA/QC anomaly and should be considered estimated.
10U	The analyte was determined to be non-detect due to its presence in the field and/or laboratory blank associated with the sample. The reported result has been qualified as not detected due to the blank contamination. The numerical value listed in front of U is the lab's Project Reporting Limit (PRL) for the analyte and will change according to the reported PRL for that analyte.
D	The result was determined in a diluted sample.
J	The analyte was analyzed for and was positively identified but the associated numerical value may be imprecise due to a quality control anomaly. The data is considered usable for many purposes. The 'J' flag is also used to indicate results above the method detection limit (MDL) but below the reporting limit. These results should be considered estimated.
B	The analyte was analyzed for and positively identified. The reported result should be considered estimated due to negative contamination in the associated laboratory blank.
E	Identifies compounds whose concentrations exceed the calibration range of the instruments for specific analysis.
NJ	The analysis indicates that the analyte is "tentatively identified" and the associated numerical is estimated. The quantification is a result of multiple QA/QC failures not sufficient enough to reject the result.



TABLE 3

## SUMMARY OF DATA VALIDATION REPORT ATTACHMENTS

[illegible]

ATTACHMENT 4-1  
LEVEL IV DATA VALIDATION SUMMARY REPORT  
CECOS INTERNATIONAL VOC ANALYSIS  
APRIL 2015 SAMPLING EVENT

## I. INTRODUCTION

This data package included a total of fifteen monitoring well samples, four associated field quality control samples, one set matrix spike/matrix spike duplicates (MS/MSD), and one trip blank. TestAmerica of Amherst, NY analyzed the samples using the 8260B analytical method specified in the QAPjP for the CECOS Target Analyte and Compounds of Interest list in Table 1-1A of the QAPjP.

## VALIDATION SUMMARY

### II. Data Deliverables

The data package contained all deliverables and was generally acceptable for use.

### III. Technical Holding Times

All samples were analyzed within the acceptable holding time of 14 days for preserved and cooled samples.

### IV. Instrument Performance Check

An instrument performance check was performed at the beginning of each analytical sequence using bromofluorobenzene (BFB). No transcription or calculation errors were noted. All performance checks met the criteria stated in the QAPjP.

### V. Initial Calibration (ICAL)

ICALs were performed at an appropriate frequency and were performed within 12 hours of the instrument performance check. The following variances from the QAPjP were noted for the ICALs in the data package:

- The number and concentrations of the calibration standards differed from those stated in the QAPjP. However, the CRQL was bracketed for all target analytes.
- Table 1 of the QAPjP lists pentafluorobenzene as one of the internal standards for target compounds; however, the lab utilized 1,4-dichlorobenzene-D4 as an internal standard instead of pentafluorobenzene. Table 1 of the QAPjP lists 1,4-difluorobenzene as one of the internal standards for target compounds; however,

the lab utilized fluorobenzene as an internal standard instead of 1,4-difluorobenzene.

- When calculating Relative Response Factors (RRFs), some target compounds were assigned to different internal standards than those assigned in Table 1 in the QAPjP.
- The laboratory considers the maximum percent Relative Standard Deviation (RSD) for some compounds to be 20% rather than the 30% limit included in the QAPjP.

The initial calibration results for the following parameters did not meet the minimum RRF criteria of 0.3.

HP5975D	1,4-Dioxane	RRF = 0.0073
HP5973N	Isobutyl alcohol	RRF = 0.0170
	1,4-Dioxane	RRF = 0.0034

These parameters are not COIs, therefore no results have been qualified.

#### VI. Continuing Calibration (CCAL)

All of the compounds in the five CCALs met the Percent Difference (% D) criteria stated in the QAPjP, with the following exceptions.

- HP5973N Acrolein %D = -38.8
- HP5973N 1,4-Dioxane %D = 28.1

Because the above are not compounds of interest, no results have been qualified.

#### VII. Blanks

Sufficient laboratory, field, and equipment blanks were included in the data packages to meet the requirements of the QAPjP. All samples were run within 12 hours of a method blank. No compounds of interest were reported in the method blanks. No compounds of interest were reported in the other types of blanks.

#### VIII. System Monitoring Compounds

TestAmerica utilized 1, 2-dichloroethane-d4 and 4-bromofluorobenzene as two of the three surrogates compared to dibromofluoromethane and bromofluorobenzene as listed in the QAPjP. Percent recoveries for the surrogates fell within the ranges presented in the QAPjP.

#### IX. Matrix Spike/Matrix Spike Duplicates (MS/MSD) and Laboratory Control Samples (LCS)

The data package contained four LCS samples and one MS/MSD sample pair. The QAPjP includes the evaluation of Percent Recovery (%R) and Relative Percent Difference (RPD) for five compounds for the MS/MSD and LCS samples. The lab evaluated four of the five

compounds in the Form III summary for each sample. All %R and RPD values were within the laboratory specific limits required by the QAPjP.

#### X. Internal Standards (IS)

All IS area counts and retention times were within the limits stated in the QAPjP. No transcription errors were noted.

#### XI. Target Compound Identification

All IS area counts and retention times were within the limits stated in the QAPjP. No transcription errors were noted.

#### XII. Compound Quantitation and Reported CRQLs

All compounds detected appeared to meet the criteria stated in the QAPjP.

#### XIII. Tentatively Identified Compounds

Tentatively identified compounds were not required to be evaluated for this sampling event.

#### XIV. Field Duplicates

The data package included two duplicates; DUPLICATE-CMI #1 and DUPLICATE-CMI #2. No reportable concentrations of target compounds were detected in either the original samples or the duplicates.

#### XV. Overall Assessment of Data

The percent completeness of data equals 100 % (no analytical data was rejected). No deficiencies that warranted qualification were found. No qualified samples are presented on Table 4-1. None of data results were rejected due to quality control deficiencies.

A summary of the validated VOC detections for this CMI monitoring event is presented as Table 4-2. Only well MP-246, located inside the CMI slurry wall, had validated detections of VOC compounds above the lab reporting limit.

**TABLE 4-1  
QUALIFIED SAMPLES  
APRIL 2015**

Sample Name	Lab Sample ID	Qualification
MP-275	480-78109-1	None
MP-241AR	480-78109-2	None
MP-238AR	480-78109-3	None
MP-305	480-78109-4	None
MP-305A	480-78109-5	None
MO-304A	480-78109-6	None
MP-276	480-78109-7	None
MP-304	480-78109-8	None
MP-249B	480-78109-9	None
DUPLICATE-CMI #2	480-78109-10	None
MP-207	480-78109-11	None
MP-208	480-78109-12	None
FIELD BLANK-CMI #2	480-78109-13	None
MP-299B	480-78109-14	None
MP-306A	480-78109-15	None
DUPLICATE-CMI #1	480-78109-16	None
FIELD BLANK-CMI #1	480-78109-17	None
MP-303B	480-78109-18	None
TRIP BLANK	480-78109-19	None
MP-246	480-78111-1	None

**TABLE 4-2  
SUMMARY OF VOC DETECTIONS  
APRIL 2015**

CECOS Sample ID	Lab Sample ID	Analyte	Result (ug/L)	Lab Flag	SCS Flag
MP-246	480-78111-1	1,1,1-Trichloroethane	60		
		1,1-Dichloroethane	45		
		1,1-Dichloroethene <sup>1</sup>	<b>16</b>		
		1,2-Dichloroethane <sup>2</sup>	<b>6.2</b>		
		Benzene	1.1	J	J
		Chloroethane	0.65	J	J
		cis-1,2-Dichloroethene	3.5		
		Tetrachloroethene <sup>2</sup>	<b>65</b>		
		Trichloroethene <sup>2</sup>	<b>7.3</b>		
		Trichlorofluoromethane	5.0		
		Vinyl Chloride	1.0	J	J

NOTES:

**Bold** - Result exceeds CMI Cleanup Standard concentration.

1. COI Compound, Cleanup Standard = 7 ug/L

2. COI Compound Cleanup Standard = 5 ug/L

**EXHIBIT NO. 5**

**EAGON & ASSOCIATES, INC.**  
**Consulting Geologists**

100 Old Wilson Bridge Road, Suite 115 / Worthington, Ohio 43085 / (614) 888-5760 / FAX (614) 888-5763

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December 3, 2015

Mr. Daniel Deborde  
CECOS International, Inc.  
5092 Aber Road  
Williamsburg, Ohio 45176

**RE: Administrative Order on Consent, O&M Progress Report No. 39**  
**Exhibit 5 - Corrective Measures Implementation Performance Monitoring Evaluation**  
**CECOS International, Inc. - Aber Road Facility**  
**Docket No. V-W-024-94**  
**EPA I.D. No. OHD 087 433 744**

Dear Mr. Deborde:

Transmitted herewith is the Corrective Measures Implementation (CMI) Performance Monitoring Evaluation for CMI data collected during the October 2015 monitoring event at the closed Aber Road Facility. This evaluation is being provided to you for inclusion as Exhibit 5 of the Operation and Maintenance (O&M) Progress Report No. 39 that must be submitted to the United States Environmental Protection Agency (U.S. EPA) by December 10, 2015.

**OCTOBER 2015 MONITORING RESULTS**

**Compounds of Interest/Target Compound List Volatile Organic Compound Results – Outside Slurry Wall Monitoring Wells**

The October 2015 monitoring event was conducted in accordance with Section 5 of the July 2009 CMI O&M Manual. The event represented year seven, quarter four of CMI monitoring as listed on Table 5.2 (Post Shutdown Monitoring Program/Groundwater Monitoring) of the CMI O&M Manual. Monitoring wells located both inside and outside the slurry wall were sampled for Compounds of Interest/Target Compound List (COI/TCL) volatile organic compounds (VOCs). Monitoring locations located outside the slurry wall are sampled semiannually (spring and fall). Locations inside the slurry wall are sampled annually (fall).

During the October 2015 event, no COI VOCs were detected at or above their respective method detection limits (MDLs) in the monitoring locations outside the slurry wall. A summary of the 2015 COI VOC results is presented on attached Table 1. Groundwater Cleanup Standards (GWCS) shown on Table 1 and listed in Section 5.2 of the July 2009 CMI O&M Manual continue to be achieved for the COIs at the 14 CMI wells located outside the slurry wall.



As shown on Table 1, COI VOCs were detected at or above their respective practical quantitation limits (PQLs) in four monitoring wells (MP-202, MP-222B, MP-224B, and MP-246) and one underdrain (U-12) located inside the slurry wall. Those results were within the range of historical values observed at each location, with some results continuing to decline to concentrations near or below historical minimums (e.g., 1,2-Dichloroethane at MP-202 and MP-224B; and 1,1-Dichloroethylene at MP-246). In addition, no TCL VOCs for which a GWCS has not been established were detected at or above their respective MDLs inside or outside the slurry wall during the October 2015 event.

### **Semiannual Gradient Analysis and Elevation Differences for Nested Wells/Piezometers**

Section 5.6 of the July 2009 CMI O&M Manual requires semiannual groundwater elevation measurements to be collected for a minimum of five years at six well clusters inside and outside the slurry wall to assist in identifying hydraulic gradients across the slurry wall following shutdown of the gradient control pumping system in 2009. The initial five-year gradient monitoring period was completed as of the October 2013 event. As a result, in the future CECOS may request U.S. EPA approval to reduce the measurement of groundwater elevations to an annual basis for gradient analysis.

Groundwater elevation measurements were collected for the CMI gradient analysis well network on October 12, 2015, prior to initiating the CMI groundwater sampling event. Figure 1 shows the locations of the six nested piezometers/wells. As required in Section 5.7.2 of the CMI O&M Manual, gradient evaluations for the six nested piezometers/wells are presented in Exhibit 2 and time-series plots depicting elevation differences for each nested piezometer are presented herein as Figures 2 through 7.

During the October 2015 event, well pairs #3 (880PZ-2 and MP-305A) and #4 (MP-238AR and 880PZ-3) indicated inward gradients. Well pairs #1 (USPZ-1 and MP-303B), #2 (880PZ-1 and MP-208), #5 (880PZ-4 and MP-304A), and #6 (880PZ-5 and MP-241AR) indicated outward gradients. Outward gradients have been observed at these well pairs during past events and conditions observed in October 2015 were generally within the range of historic observations (See Figures 2 through 7). Well pairs #1 (Figure 2) and #4 (Figure 5) display seasonal effects on gradient relationships, with inward gradients commonly occurring.

As discussed in the June 30, 2008 "Aber Road Petition to Cease Groundwater Recovery", advective groundwater flow through the slurry wall is negligible due to the low hydraulic conductivity of the bentonite and the fact that the Upper Sand and 880 Sand zones were removed during slurry wall construction; therefore, the presence of an outward gradient is not expected to result in contaminant transport across the slurry wall. Semiannual monitoring of wells outside the slurry wall continues to demonstrate that COI/TCL VOCs are not being transported across the slurry wall's hydraulic barrier.

### **Semiannual Potentiometric Surface Maps**

Section 5.6 of the July 2009 CMI O&M Manual requires monitoring wells listed in Section 5.4 of the Manual to be used in developing semiannual groundwater elevation maps both inside and outside the slurry wall. This is as specified in Condition #1 of the March 31, 2009 U.S.

Mr. Daniel Deborde  
December 3, 2015  
Page 3

EPA "Final Approval with Conditions/Modifications to Shutdown the Groundwater Gradient Control System."

Potentiometric surface maps for CMI wells screened in the Upper Sand, 880 Sand, and Bedrock Till Interface (BTI) Zones in October 2015 are shown on Figures 8, 9 and 10, respectively. Groundwater flow conditions in the Upper Sand and 880 Sand Zones are similar in nature to historical conditions. The removal of formation material during cell construction and installation of the slurry wall as a hydraulic barrier resulted in localized isolation of the remaining sands. Therefore, water levels in the Upper Sand and 880 Sand in the CMI area generally do not define well organized potentiometric surfaces. Groundwater flow in the BTI, which is below the depth of the slurry wall, was toward the southwest in the vicinity of the CMI area during the event, consistent with previous observations.

#### **COMPARISON OF SIX COI/TCL VOC RESULTS AT MP-219A, MP-246, & MP-248B TO CBPSs & SCREENING LEVELS**

The June 30, 2008 *Aber Road Petition to Cease Groundwater Recovery* submittal noted six COI/TCL VOCs at wells inside the slurry wall with concentrations above the Consent Order-specified GWCSs intended to be applied at the point of compliance wells located outside the slurry wall. These compounds are 1,2-dichloroethane, 1,1-dichloroethylene, tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene, and vinyl chloride. The June 30, 2008 submittal contained concentration-based performance standards (CBPS) for these six parameters calculated such that if concentrations of these parameters at wells inside the slurry wall were below the CBPSs, then concentrations of these parameters in wells outside the slurry wall would remain below GWCSs for 30 years after System shutdown. The May 30, 2008 *Aber Road Petition to Cease Groundwater Recovery* (including an August 14, 2008 supplement) also developed Screening Levels (below the CBPSs) for the six COI/TCL VOCs for wells MP-219A, MP-246, and MP-248B, which are located inside the slurry wall boundary. The Screening Levels were calculated using conservative fate-and-transport assumptions such that if concentrations of these parameters at wells inside the slurry wall were below the Screening Levels, then concentrations of these parameters in wells outside the slurry wall would be expected to remain below detection for 30 years after system shutdown. The CBPSs and Screening Levels for 1,2-dichloroethane, 1,1-dichloroethylene, tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene, and vinyl chloride can be found in Section 5.8 of the July 2009 CMI O&M Manual.

Attached Table 2 contains a comparison of the October 2015 annual results from monitoring wells MP-219A, MP-246, and MP-248B, located inside the slurry wall, to the CBPSs and Screening Levels calculated for 1,2-dichloroethane, 1,1-dichloroethylene, tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene, and vinyl chloride, where detected. It is noted that there were no COI/TCL VOC detections at or above respective method detection limits at MP-219A or MP-248B for the event.

None of the October 2015 COI/TCL VOC results for any of the three wells approached or exceeded their respective CBPSs or Screening Levels for the six VOCs, with the exception of the Screening Level for 1,2-Dichloroethane at Upper Sand well MP-246. The 1,2-Dichloroethane concentration of 21 ug/L at MP-246 in October was above the Screening Level of 15 ug/L. As

required by Section 5.10 of the July 2009 CMI O&M Manual, an evaluation of the Screening Level exceedance and recommendations for additional action are presented below.

#### **Evaluation of the Screening-Level Exceedance at MP-246**

Section 5.10 of the O&M Manual requires that an evaluation of a Screening Level exceedance be completed and submitted to U.S. EPA for approval "within 30 days of receipt of validated data." The CMI data validation is not required to be completed until the reporting period following each semiannual sampling event. Therefore, the validation for the October 2015 event will be completed by spring 2016 and presented in Progress Report No. 40 due June 10, 2016. However, we have completed our evaluation of the Screening Level exceedance for 1,2-dichloroethane (1,2-DCA) at MP-246 and have developed recommendations for additional actions moving forward.

The October 2015 1,2-DCA concentration of 21 ug/L at MP-246 remains below the CBPS of 37 ug/L. The result is above 2012 (12 ug/L) and 2013 (1.6J ug/L) values; however it is below the 2014 result of 22 ug/L and is significantly below the maximum historic concentration of 1,880 ug/L. The October 2015 result is within the range of concentrations observed since 2000 ( $\leq 58$  ug/L), where the overall trend is downward (Figure 11) with more widely variable seasonal fluctuations observed since 2011. Figure 11 displays water-level elevations in the well since 2011 that show periods of seasonally lower water levels have corresponded to somewhat increased concentrations in the well. In addition, review of water-level fluctuations in the context of routine gradient analysis shows that, since pumping was discontinued inside the slurry wall, hydraulic gradients across the slurry wall have been more frequently inward than outward at Well Pair #1 located nearest to MP-246 (Figures 2 and 8). This suggests that, on average, the potential for groundwater transport is from outside the slurry wall to inside in the vicinity of MP-246.

A time-series graph of all constituents detected during the October 2015 event is presented on Figure 12 and includes results collected since 2000. Figure 12 shows that concentration trends remain predominantly downward for the constituents commonly detected at well MP-246. Figure 12 shows that October 2015 concentrations of 1,1,1-Trichloroethane and 1,1-Dichloroethylene were at their lowest levels observed to-date and several other constituents were near their lowest observed concentrations. This suggests that the Screening Level exceedance for 1,2-DCA at MW-246 occurred as overall groundwater quality conditions continue to improve at the well, including since system shutdown in 2009.

The October 2015 results at nearby Upper Sand wells located outside the slurry wall, including MP-207, MP-299B, and MP-303B (Figure 8), remain nondetect for 1,2-DCA (Table 1) and demonstrate that the slurry wall continues to provide an effective barrier to contaminant migration in the MP-246 area. The outside results together with the average inward gradient in the area indicate that the exceedance of the very conservative Screening Level for 1,2-DCA at MP-246 is not reflective of an imminent potential for the Action Level of 3 ug/L or the GWCS of 5 ug/L to be exceeded beyond the slurry wall.

Another significant variable considered during the evaluation of the Screening Level exceedance was the nature of the Upper Sand in the vicinity of MP-246 and the completion and performance characteristics of MP-246, in general. The Upper Sand horizon is approximately 1.5 feet

Mr. Daniel Deborde  
December 3, 2015  
Page 5

thick at the well, from 19.5 to 21 feet below ground, and the areal extent of the zone is entirely truncated by the slurry wall. During slurry wall construction, the formation was removed via trenching and was replaced with a soil-bentonite slurry barrier. The slurry wall trench was excavated to a minimum width of two-feet. The trench extended vertically, through the Upper Sand, to below the 880 Sand. In addition to this substantial hydraulic barrier to horizontal transport, MP-246 is a low-yielding well that typically purges to dryness using volumetric purging sampling methods, which demonstrates low hydraulic conductivity of the Upper Sand zone in the vicinity of the well.

The combination of the formation characteristics in the MP-246 area, the tendency for inward groundwater flow potential across the slurry wall, and the limited areal extent of the zone due to its removal during slurry wall construction minimize the likelihood that a low-level exceedance above the Screening Level will result in detections of 1,2-DCA outside the slurry wall.

In addition to the above analysis, review of the information presented in the 2008 *Petition to Cease Groundwater Recovery* indicates that a calculated value of 18 (ml/g) was used for the organic carbon partition coefficient ( $K_{OC}$ ) for 1,2-DCA. Published references for actual experimental values, including supporting documentation provided in USEPA's National Primary Drinking Water Regulations, indicate  $K_{OC}$  values of at least 33 for silt loam soils such as the Upper Sand zone and the soil matrix used in the slurry. Following the approach described in the petition, using a  $K_{OC}$  value of 33 for 1,2-DCA would result in a Screening Level of 22 ug/L (verses 15 ug/L). The resulting CBPS would be 54 ug/L (verses 37 ug/L) to prevent the Cleanup Standard of 5 ug/L from potentially being exceeded in 30 years. Therefore, applying the experimentally-derived  $K_{OC}$  value of 33, the October 2015 1,2-DCA result of 21 ug/L at MP-246 does not exceed the resulting Screening Level of 22 ug/L. More importantly, the October result would still be substantially below the alternate CBPS of 54 ug/L.

As noted above and discussed in the 2008 petition to discontinue pumping operations, the calculated Screening Levels were developed as conservative (i.e., low-end) values for triggering additional evaluation of future results. Combined with the above discussion, it is our conclusion that no imminent potential exists for contaminant migration beyond the slurry wall based on the October 2015 sampling results.

#### **Recommended Actions Based on the Evaluation of the Screening-Level Exceedance at MP-246**

Section 5.10 of the O&M Plan states: "Response actions [following a screening level exceedance] may include an upgraded monitoring program to assess and predict the possible impacts on groundwater outside the slurry wall, and/or resuming the pumping of the groundwater gradient control trench (at MP-246) and/or certain wells (at MP-219A and MP-248B)." Based on the evaluation of the single Screening Level exceedance discussed above, resumption of active gradient control operations is not warranted at this time; however, augmenting the CMI ground-water monitoring program to allow for supplemental data collection to better characterize the nature of the October 2015 1,2-DCA concentration at MP-246 is warranted. To accomplish this, CECOS proposes to perform supplemental sampling of monitoring well MP-246 during 2016. The well is normally sampled annually, during the fourth quarter of each year. During 2016, the well will be added to the semiannual (spring) CMI ground-water monitoring event and sampled for the full list of COI/TCL list of compounds. Wells outside the slurry wall will continue to be sampled semiannually including during the spring 2015 event. The results of the spring event at MP-246 will be compared to

Mr. Daniel Deborde  
December 3, 2015  
Page 6

Screening Levels and previous results and recommendations for any additional actions that may be appropriate will be provided in Progress Report No. 40 due June 10, 2016.

Please contact me at (614) 888-5760 if you have any questions.

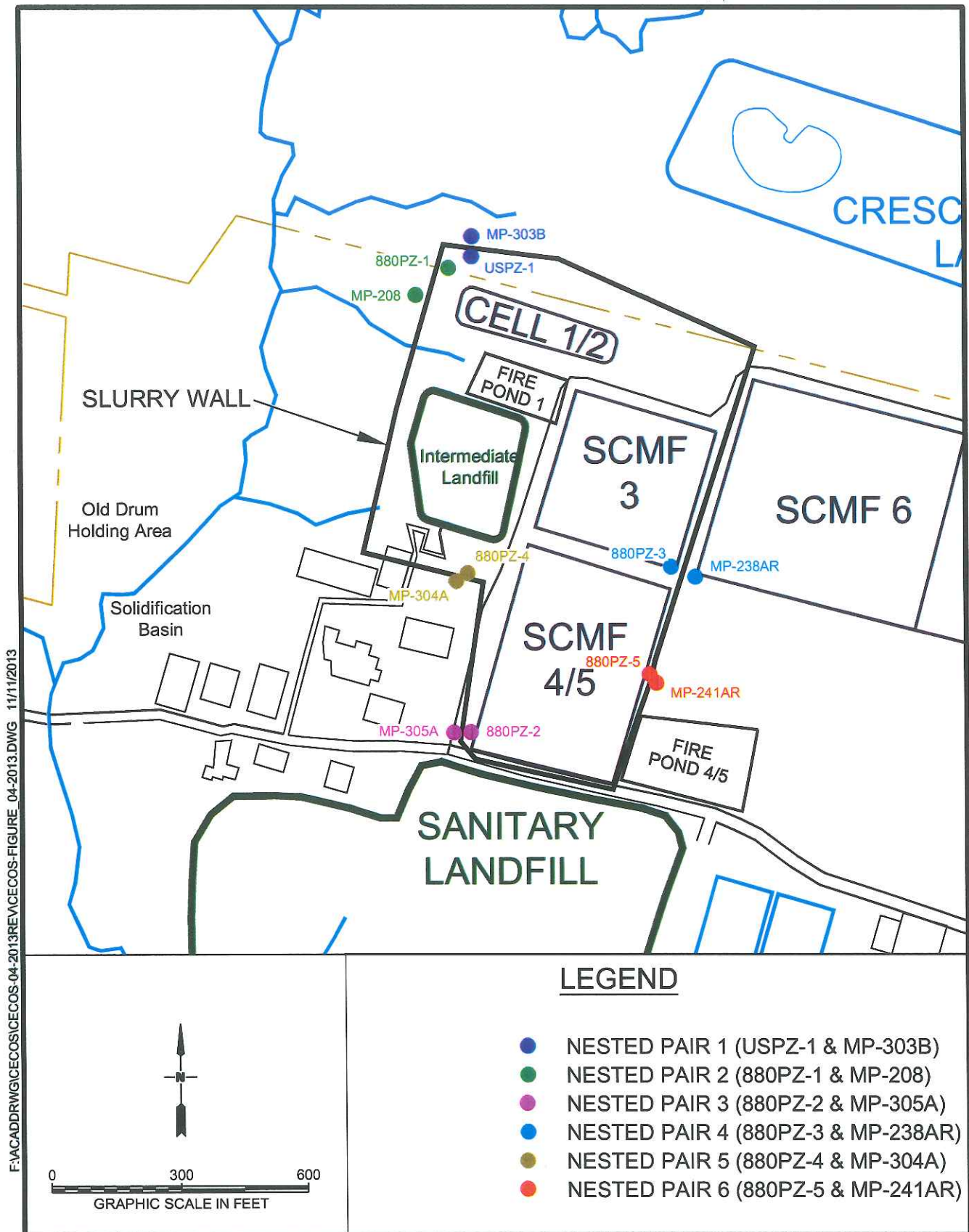
Sincerely,

A handwritten signature in black ink, appearing to read "Michael T. Gibson", with a stylized flourish at the end.

Michael T. Gibson, CPG  
Hydrogeologist

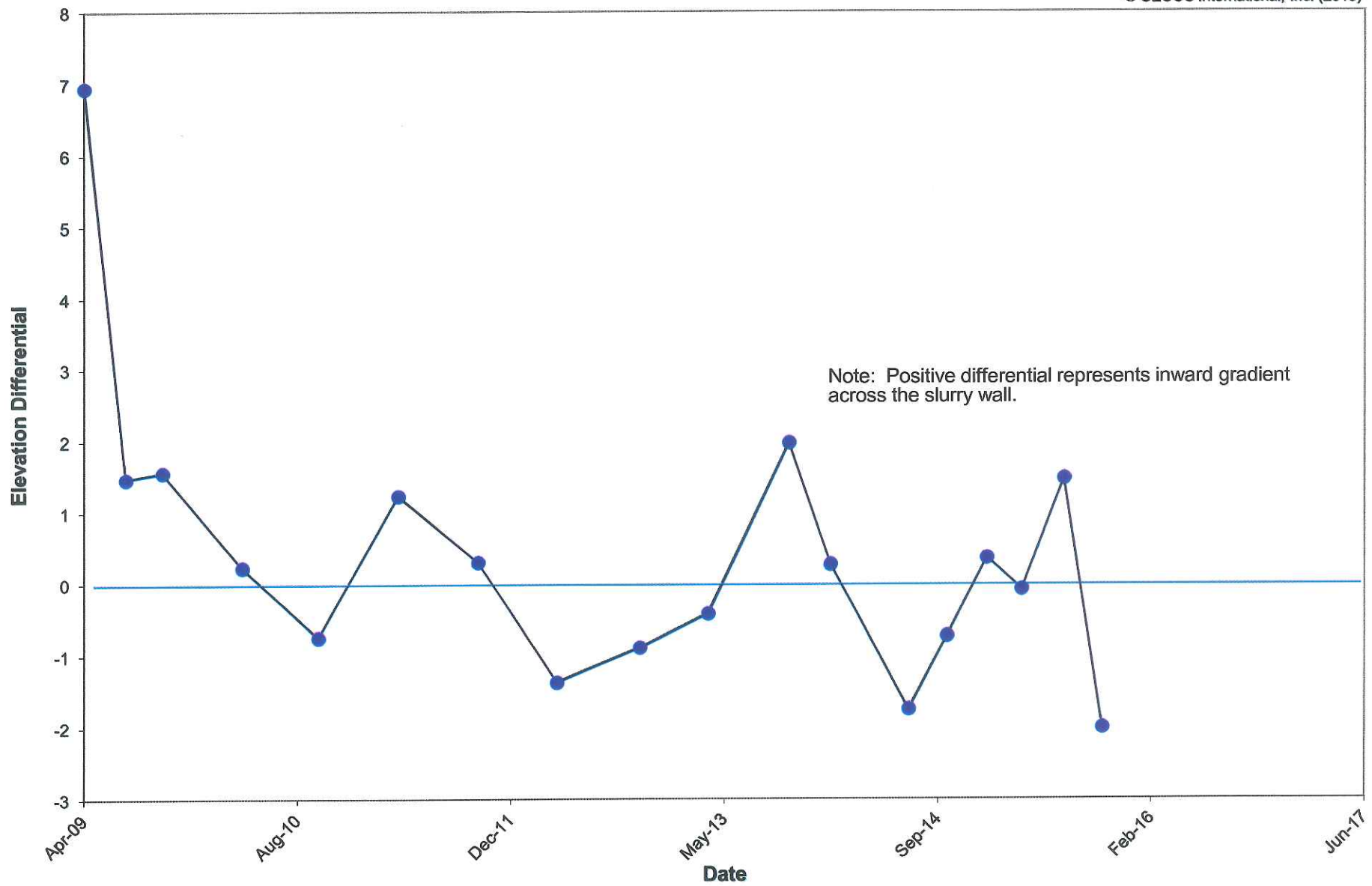
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## FIGURES



Aber Road Facility, Williamsburg, Ohio

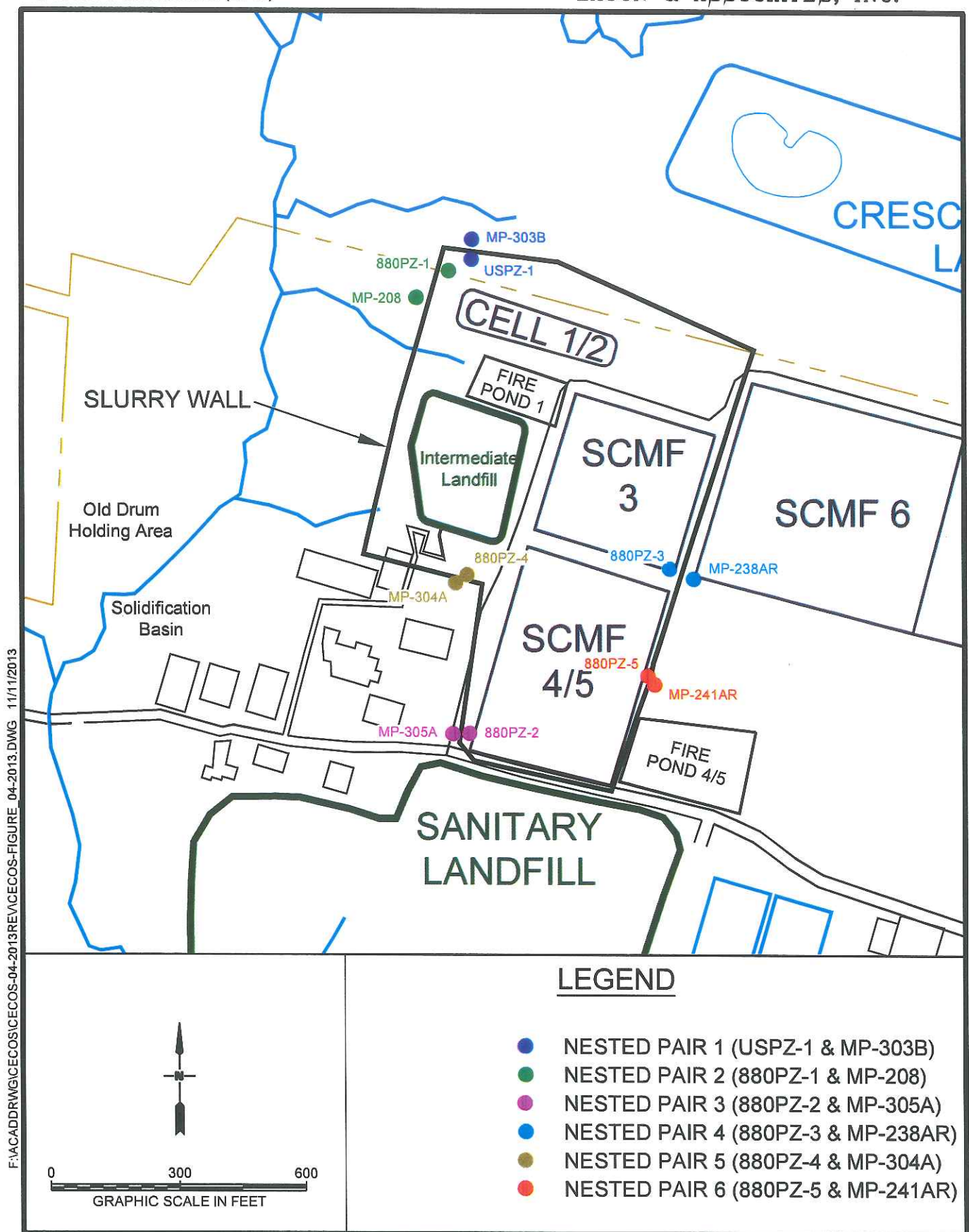
FIGURE 1. NESTED MONITORING WELL / PIEZOMETER LOCATIONS



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Williamsburg, Ohio

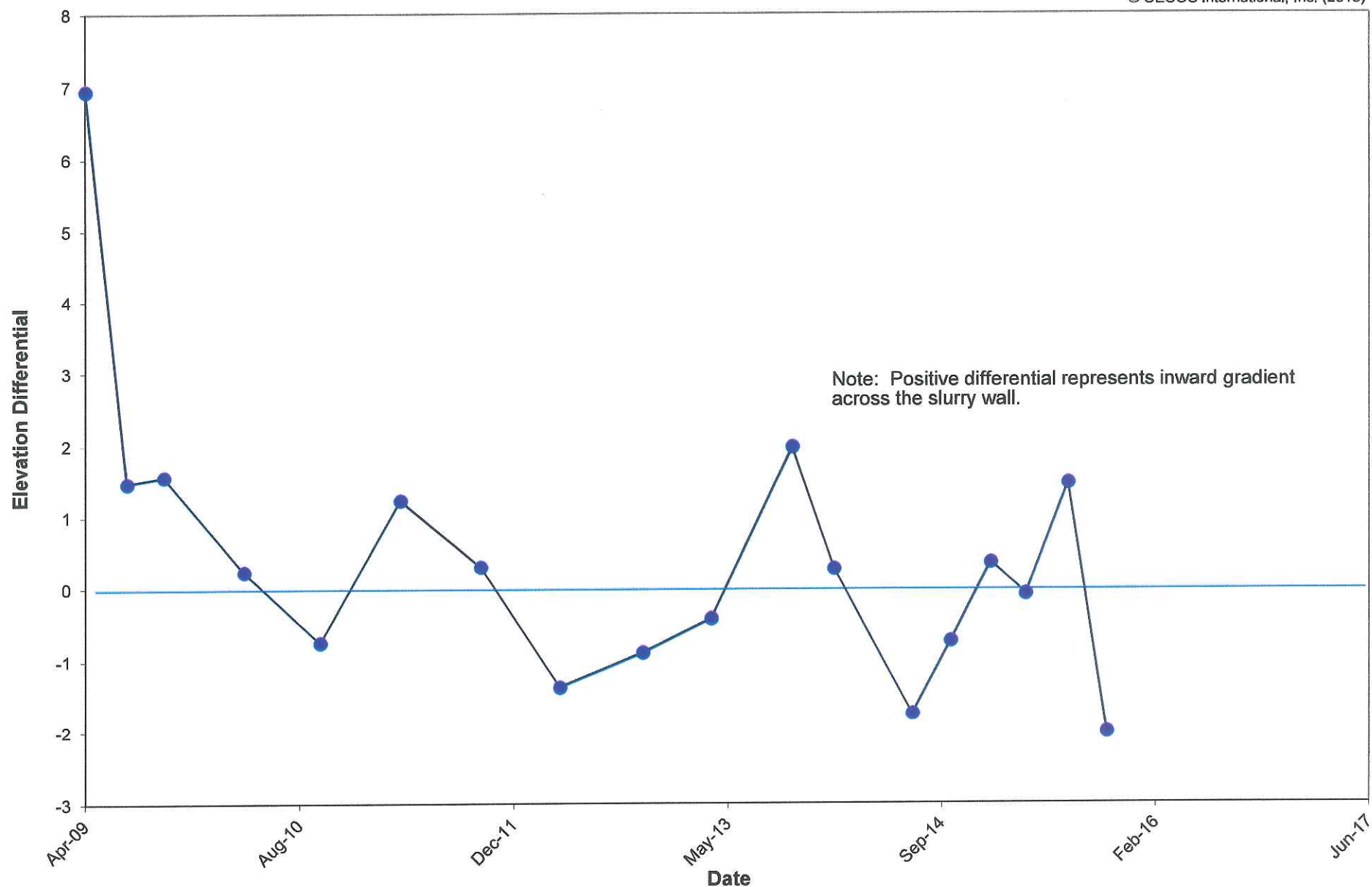
**Figure 2**  
Elevation Differential for  
Well Pair 1: MP-303B & USPZ-1





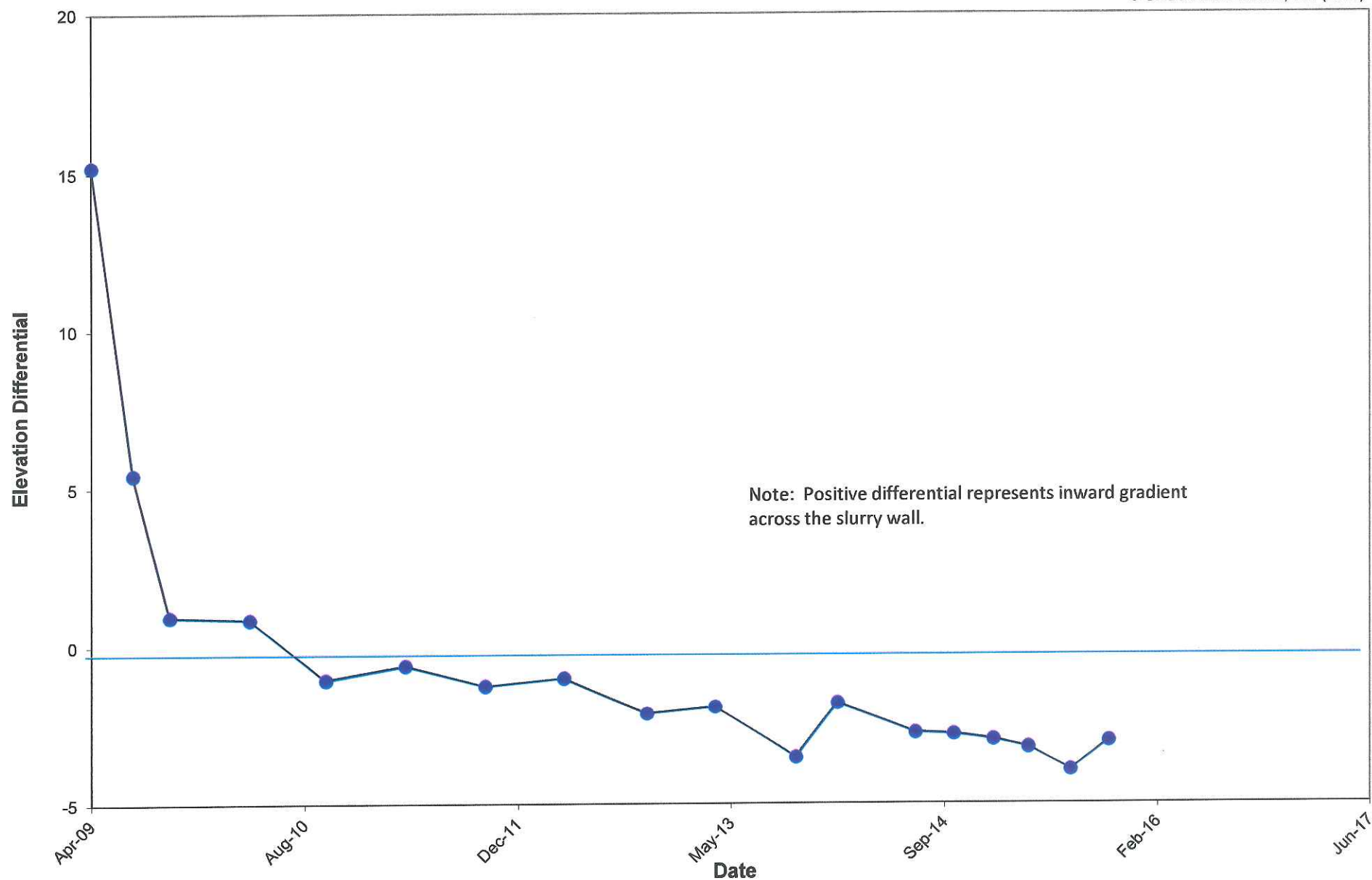
Aber Road Facility, Williamsburg, Ohio

FIGURE 1. NESTED MONITORING WELL / PIEZOMETER LOCATIONS



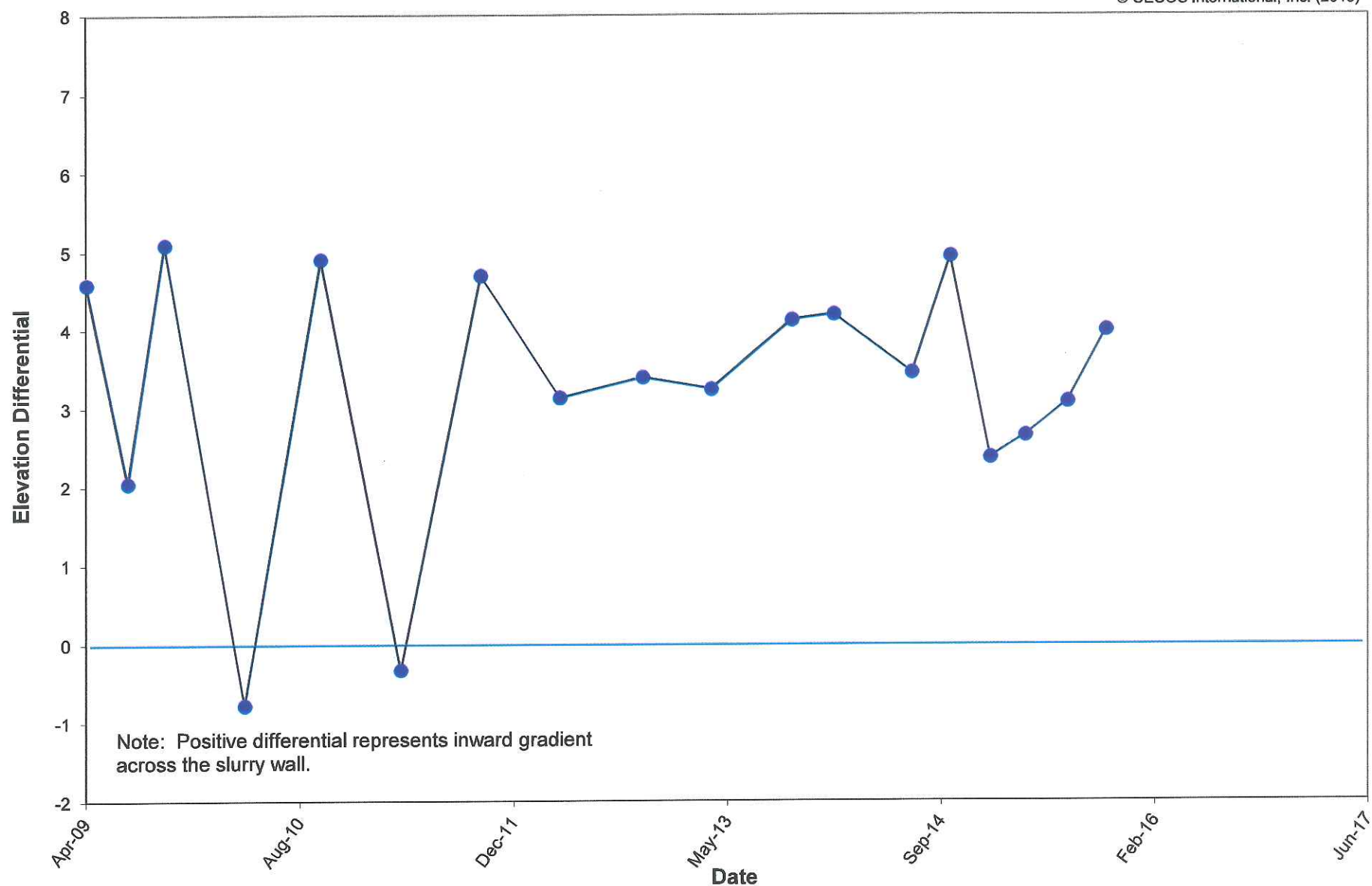
Aber Road Facility  
Williamsburg, Ohio

**Figure 2**  
Elevation Differential for  
Well Pair 1: MP-303B & USPZ-1



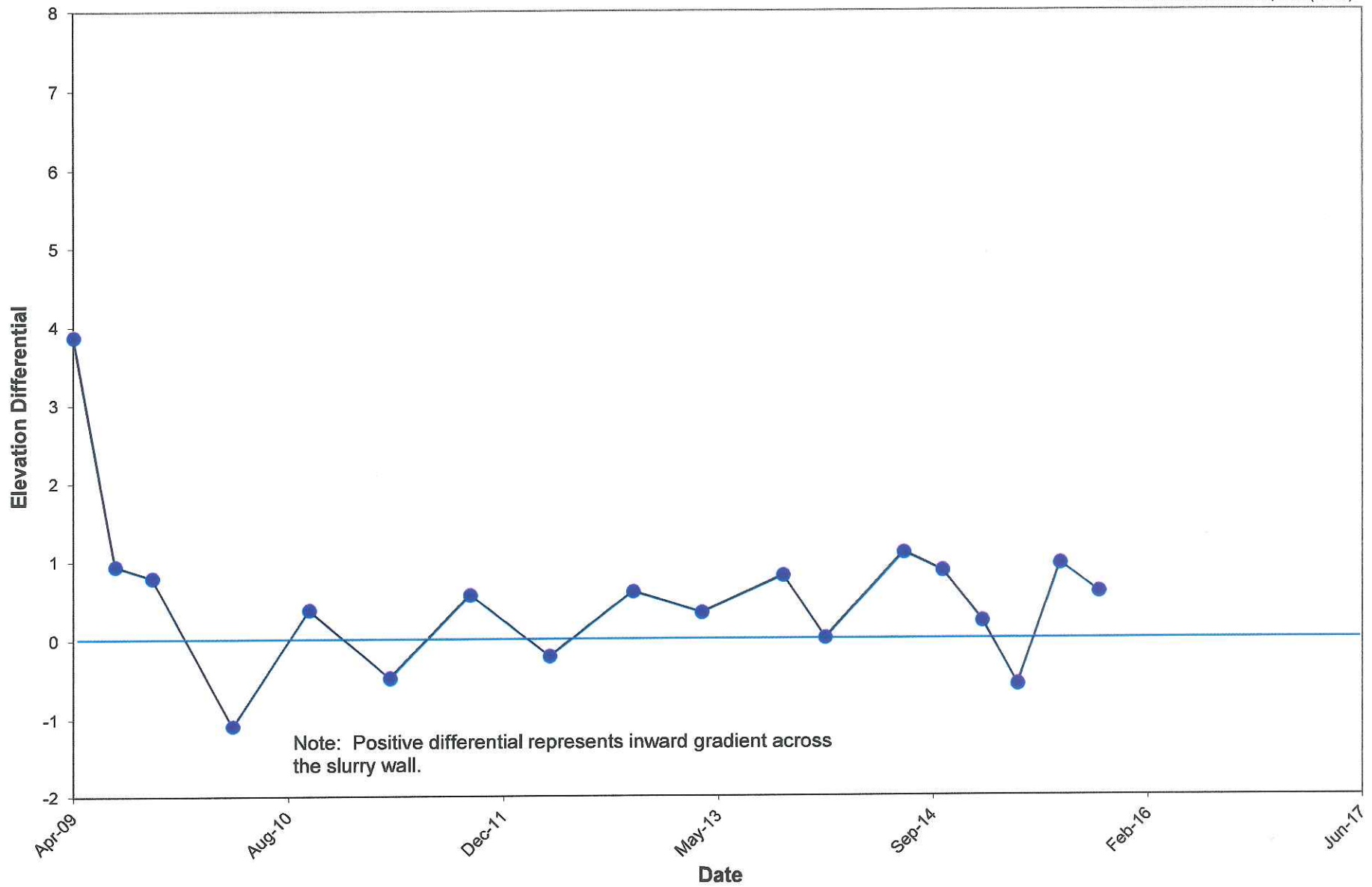
Aber Road Facility  
Williamsburg, Ohio

**Figure 3**  
Elevation Differential for  
Well Pair 2: MP-208 & 880PZ-1



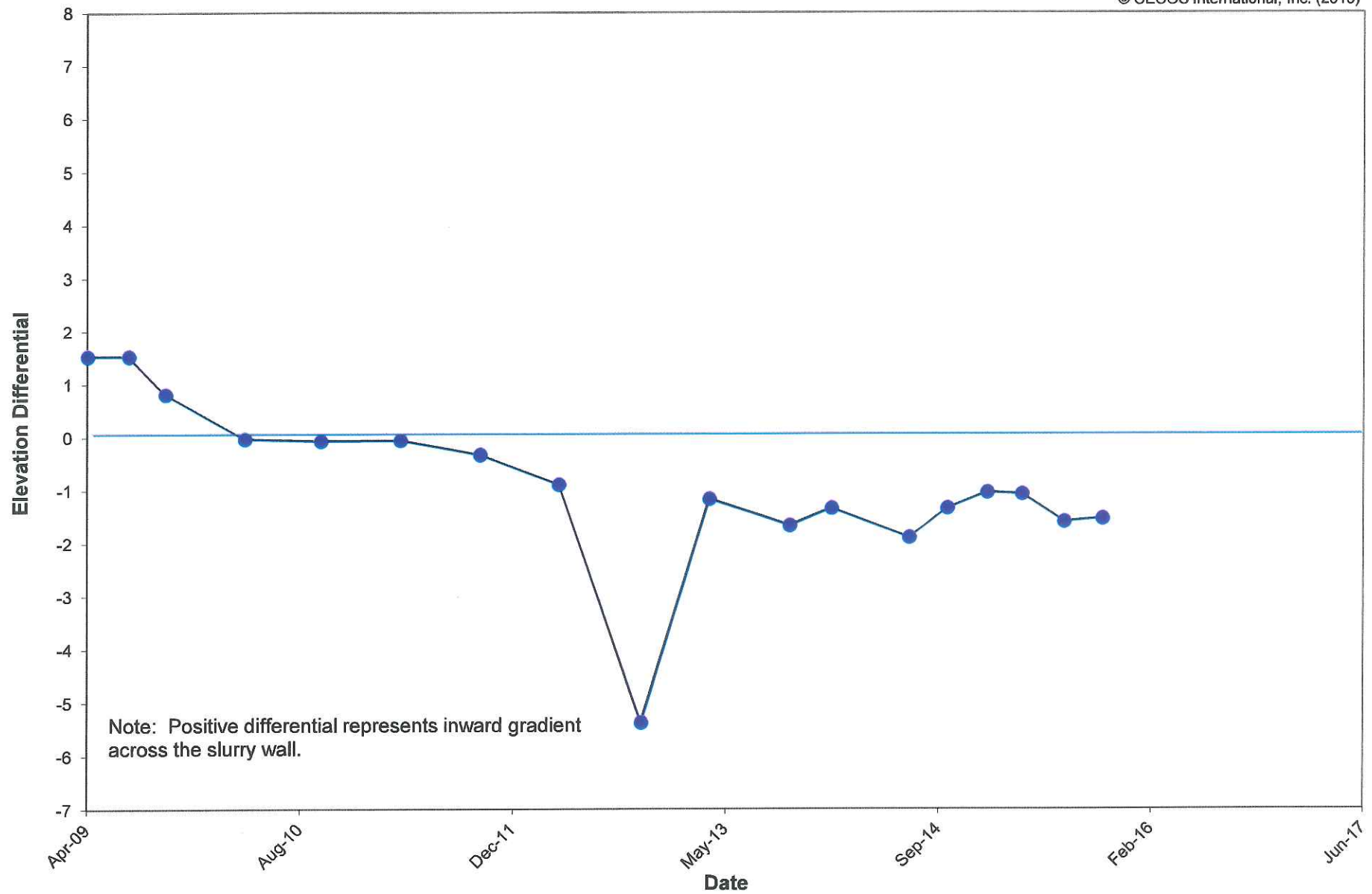
Aber Road Facility  
Williamsburg, Ohio

**Figure 4**  
Elevation Differential for  
Well Pair 3: MP-305A & 880PZ-2



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Williamsburg, Ohio

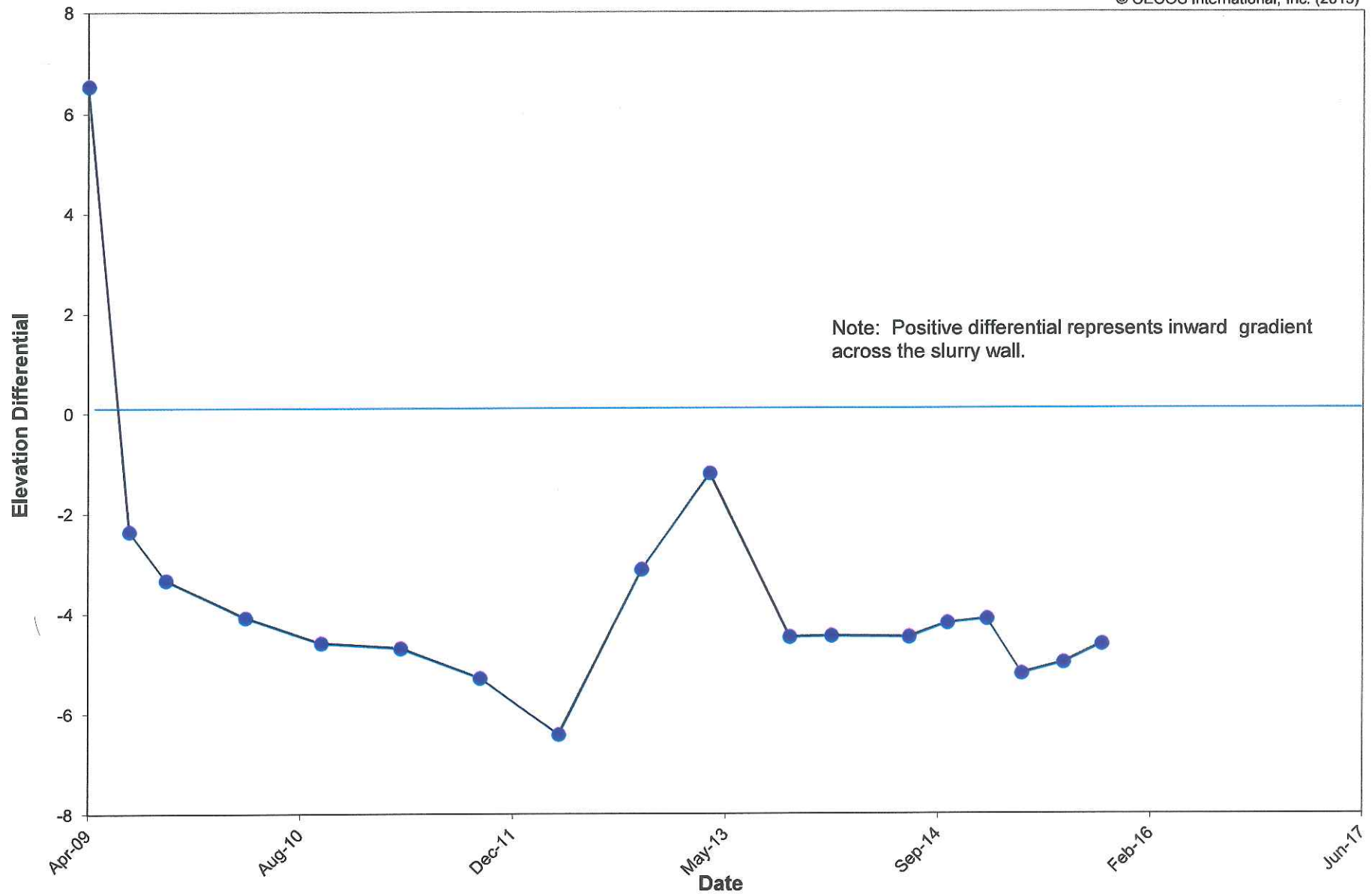
**Figure 5**  
Elevation Differential for  
Well Pair 4: MP-238AR & 880PZ-3



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Williamsburg, Ohio

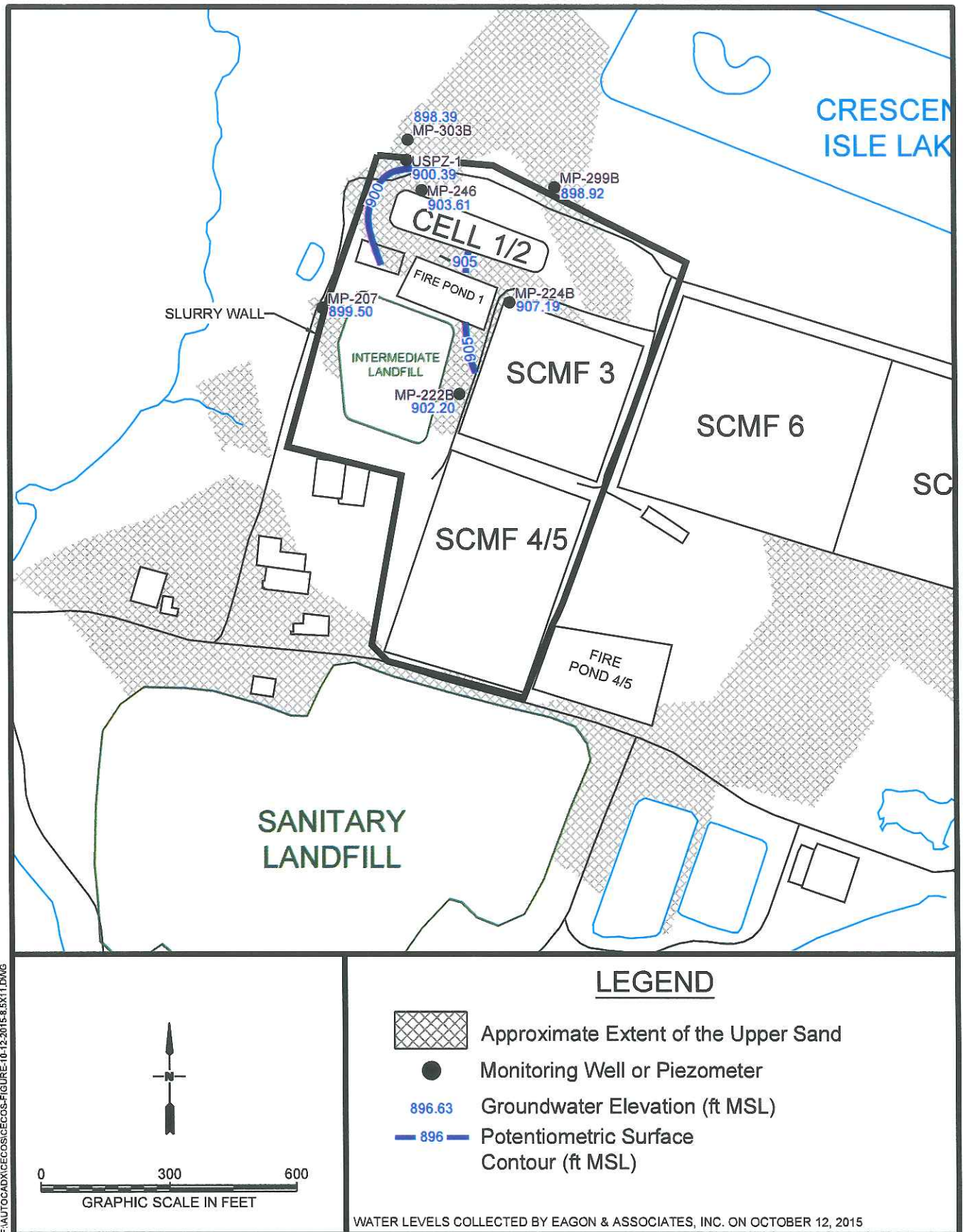
**Figure 6**  
Elevation Differential for  
Well Pair 5: MP-304A & 880PZ-4





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Williamsburg, Ohio

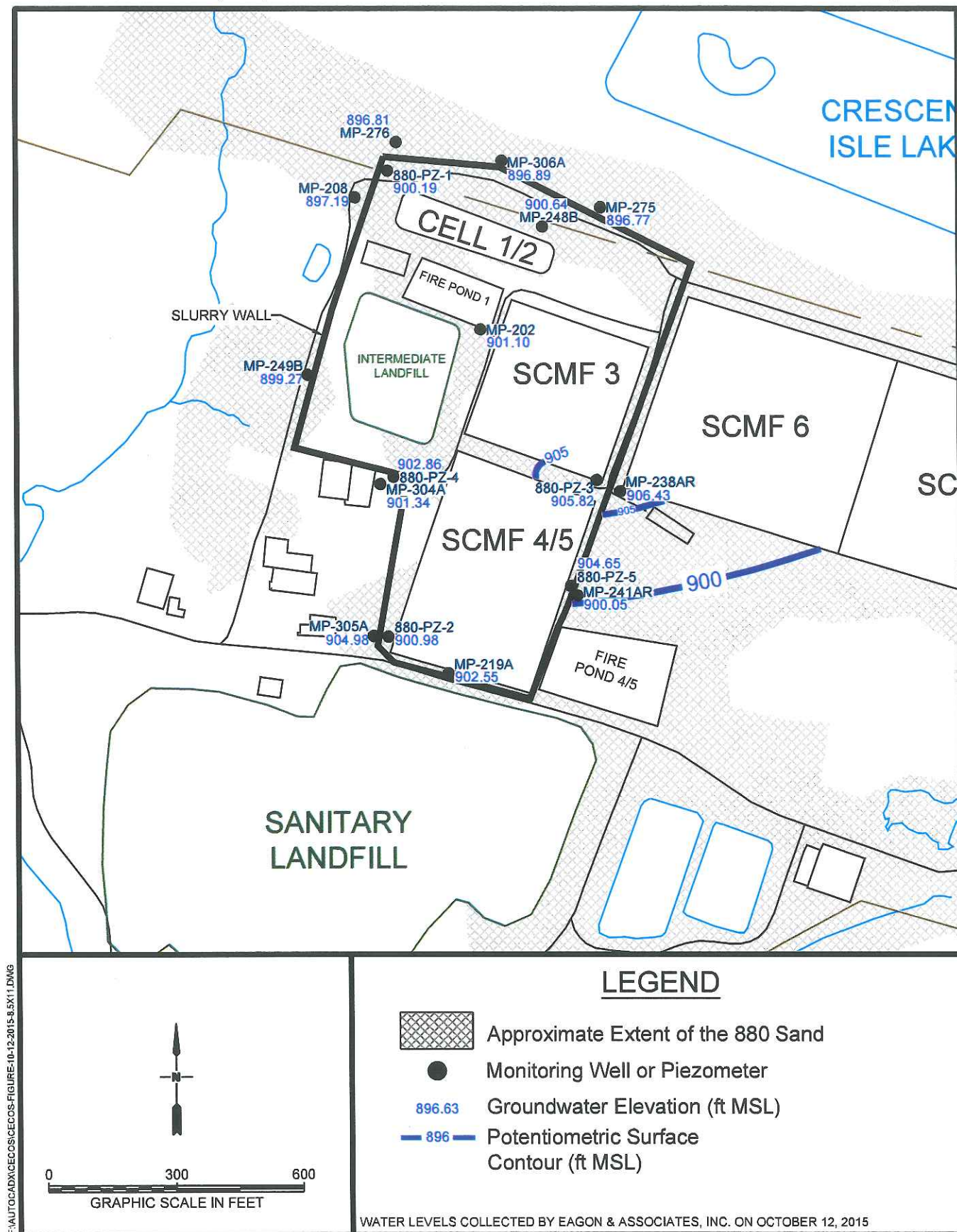
**Figure 7**  
Elevation Differential for  
Well Pair 6: MP-241AR & 880PZ-5



Aber Road Facility, Williamsburg, Ohio

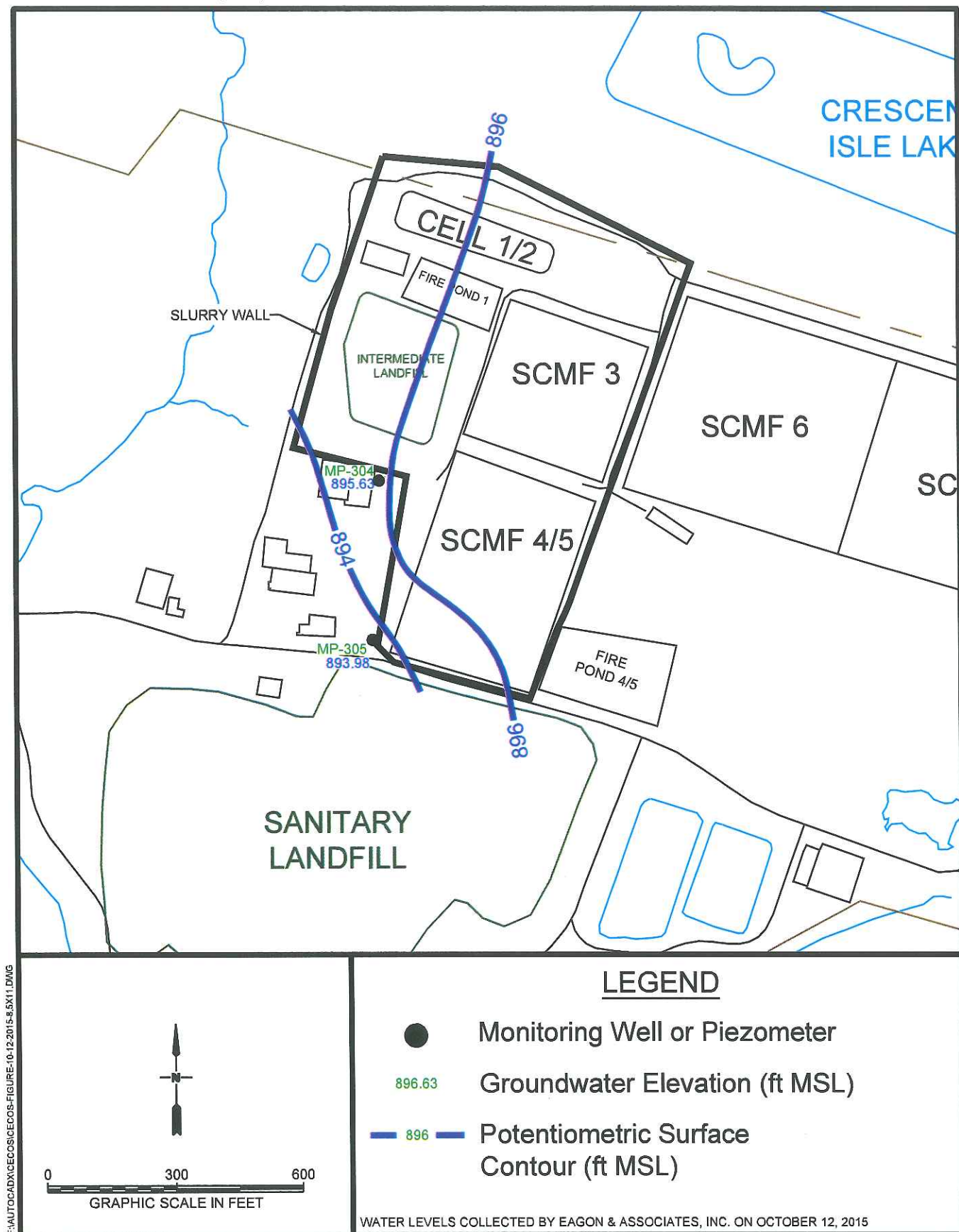
FIGURE 8. POTENTIOMETRIC SURFACE OF THE UPPER SAND ZONE - CMI WELLS, OCTOBER 12, 2015





Aber Road Facility, Williamsburg, Ohio

FIGURE 9. POTENTIOMETRIC SURFACE OF THE 880 SAND ZONE - CMI WELLS, OCTOBER 12, 2015



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FIGURE 10. POTENTIOMETRIC SURFACE OF THE BEDROCK TILL INTERFACE - CMI WELLS, OCTOBER 12, 2015

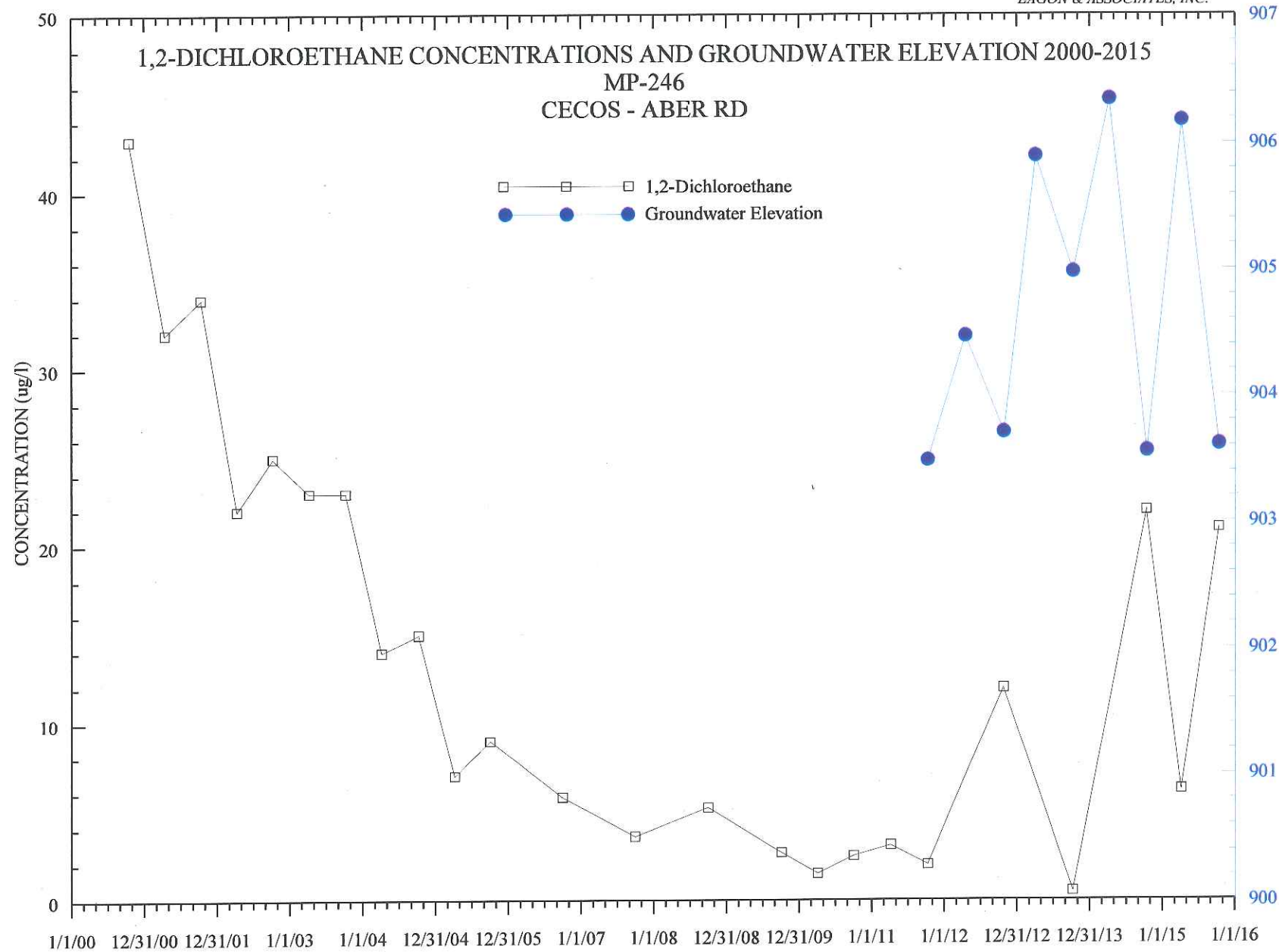
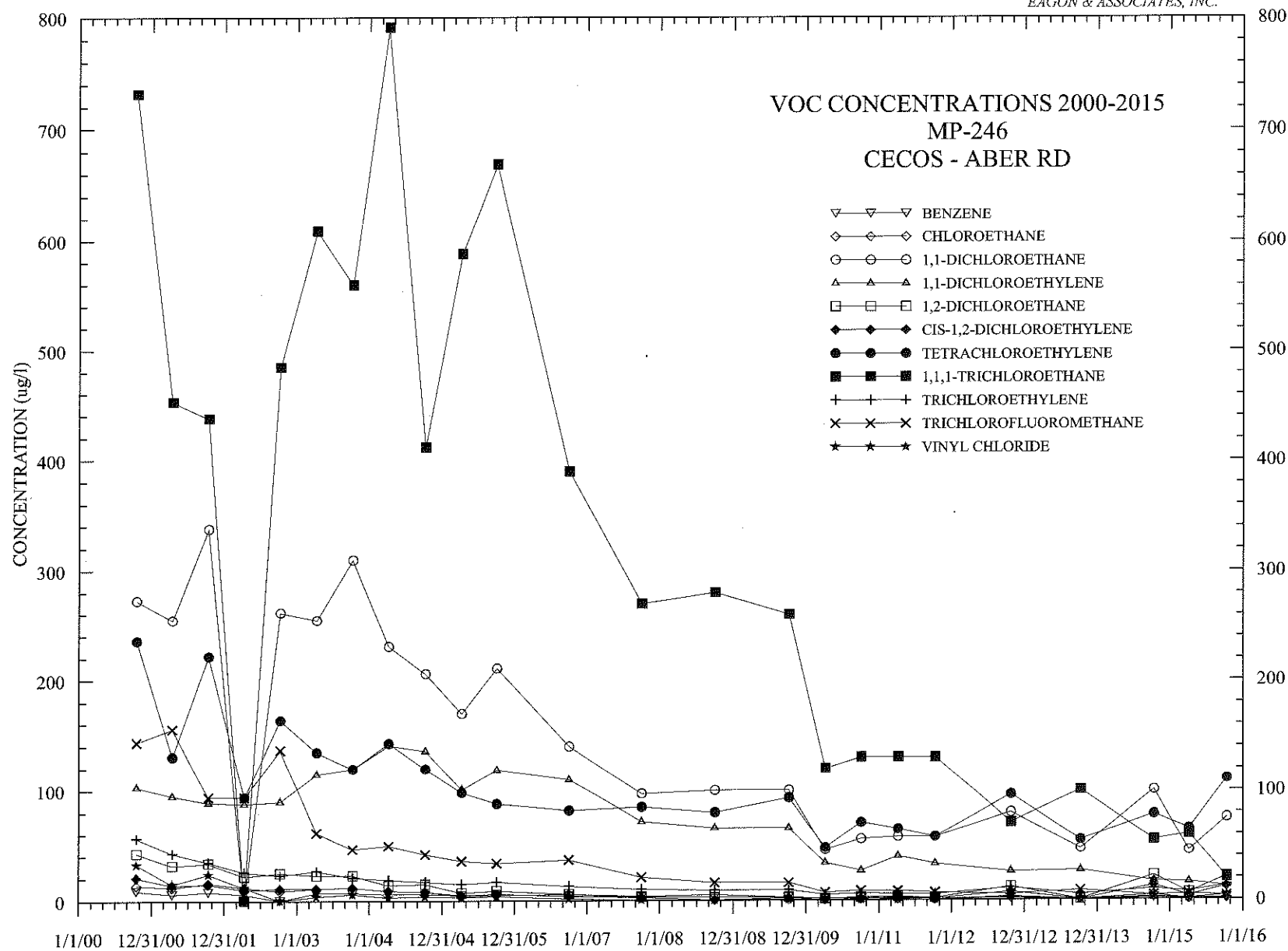


FIGURE 11

**FIGURE 12**

## TABLES



**TABLE 1.**  
**SUMMARY OF OCTOBER 2015 CONSTITUENT OF INTEREST (COI) RESULTS AND COMPARISON TO CLEANUP STANDARDS AND ACTION LEVELS<sup>1</sup>**  
**CECOS INTERNATIONAL, INC. - ABER ROAD FACILITY**

Well	Sampling Date	Acetone (ug/L)	Benzene (ug/L)	Methyl ethyl ketone (ug/L)	Chloro- ethane (ug/L)	Dichloro- difluoro- methane (ug/L)	1,1-Dichloro- ethane (ug/L)	1,2-Dichloro- ethane (ug/L)	1,1-Dichloro- ethylene (ug/L)	cis-1,2- Dichloro- ethylene (ug/L)	trans-1,2- Dichloro- ethylene (ug/L)	Methylene chloride (ug/L)	Tetra- chloro- ethylene (ug/L)	1,1,1- Trichloro- ethane (ug/L)	Trichloro- ethylene (ug/L)	Trichloro- fluoro- methane (ug/L)	Vinyl chloride (ug/L)
Cleanup Standard (ug/L) <sup>1</sup>		10000	5	61000	292000	20000	10000	5	7	70	100	5	5	200	5	31000	2
Basis		Health	MCL	Health	Health	Health	Health	MCL	MCL	MCL	MCL	MCL	MCL	MCL	MCL	Health	MCL
Action Level (ug/L) <sup>1</sup>		4000	3	1900	43000	1000	2000	3	4	40	50	3	3	100	3	3000	1
<b>Wells Located Outside the Slurry Wall</b>																	
MP-207	10/12/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MP-208	10/12/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MP-238AR	10/13/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MP-241AR	10/13/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MP-249B	10/12/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MP-275	10/12/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MP-276	10/12/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MP-299B	10/12/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MP-303B	10/12/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MP-304	10/12/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MP-304A	10/12/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MP-305	10/12/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MP-305A	10/12/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MP-306A	10/12/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
<b>Wells/Underdrains Located Inside the Slurry Wall</b>																	
MP-202	10/13/2015	<10	0.64 (J)	<10	<2	<2	5.5	1.9 (J)	<2	1.0 (J)	<2	<2	<2	<2	0.51 (J)	<2	<2
MP-219A	10/13/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MP-222B	10/13/2015	<10	2.4	<10	0.55 (J)	3.2	1.4 (J)	62	<2	1.7 (J)	<2	0.50 (J)	<2	<2	<2	<2	<2
MP-224B	10/13/2015	<10	<2	<10	<2	<2	4.2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
MP-246	10/13/2015	<40	<8	<40	<8	<8	75	21	12	12	<8	<8	110	20	13	<8	<8
MP-248B	10/12/2015	<10	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
U-11	10/13/2015	<10	<2	<10	<2	<2	0.99 (J)	<2	<2	0.98 (J)	<2	<2	<2	<2	<2	<2	<2
U-12	10/13/2015	<10	<2	2.4 (J)	<2	<2	1.4 (J)	<2	<2	8.5	<2	<2	<2	<2	<2	<2	2.5

<sup>1</sup> Cleanup Standards and Action Levels are relevant to Corrective Measures Implementation (CMI) wells located outside the slurry wall.

J: Estimated results between the method detection limit (MDL) and reporting limit.

**TABLE 2.**  
**CMI COI COMPOUND DETECTIONS AT MP-246, MP-219A, AND MP-248B**  
**OCTOBER 2015 MONITORING EVENT**  
**CECOS INTERNATIONAL, INC. ABER ROAD FACILITY**

Well	Constituent of Interest (COI)	Result (ug/L)	Concentration-Based Performance Standards (CBPS) (ug/L)	Screening Level (ug/L)
MP-219A	No detections	NA	NA	NA
MP-246	1,1,1-Trichloroethane	20	130,000	1,350
	1,1-Dichloroethylene	12	213	62
	1,2-Dichloroethane	21	37	15
	Tetrachloroethylene	110	60,000,000	30,000,000
	Trichloroethylene	13	1,200	500
MP-248B	No detections	NA	NA	NA

Notes:

Per the July 13, 2009 CMI Operations and Maintenance Manual, results for wells MP-246, MP-219A, and MP-248B are to be compared to calculated CBPS and Screening Levels for six COI compounds (1,2-dichloroethane, 1,1-dichloroethylene, tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene, and vinyl chloride). Results not listed are non-detect (<MDL).

MP-219A and MP-248B had no detections of COIs above the MDL during the October 2015 event.

**EXHIBIT NO. 6**





# MEMO

**To:** Dan Deborde, Environmental Manager, Republic Services, Inc.  
**From:** Matthew Barnett  
**CC:** Joe Montello, Hydrogeology Manager, Republic Services, Inc.; Mike Gibson, Eagon & Associates, Inc.  
**Date:** October 21, 2015  
**Project #:** R1050012  
**Re:** October 2015 CMI Groundwater Sampling Audit at the CECOS Aber Road Facility

---

This memo documents the completion of the Groundwater Sampling Audit conducted during the October 2015 groundwater monitoring event for the Corrective Measures Implementation (CMI) program at the Closed CECOS facility at 5092 Aber Road in Williamsburg, Ohio. Detailed notes regarding the findings of the audit are provided on the attached field audit checklist from the CMI QAPP.

The audit was completed by Matthew Barnett of The Mannik & Smith Group on October 12-13, 2015 during purging and sampling of the CMI wells. Eagon & Associates, Inc. (Eagon) conducted the sampling event. Eagon personnel performing the CMI sampling included:

CMI Sampling Team

Chris Gordon  
Nick Karow  
Andy Graham (field team leader)

Andy Graham was the field team leader for this sampling event and coordinated the CMI sampling event well. Additional Eagon staff on site included Nelson Novak who conducted the DMP sampling and Ryan Hansel to sample the underdrains (neither part of the CMI audit).

During the audit, the following activities were observed: field preparation activities, meter calibration, water level measurements, well purging, well sampling, QA/QC sample collection, groundwater sample packing/handling, record keeping activities, and purge water handling.

Well purging and sampling were observed at multiple locations including wells MP-202, MP-207, MP-208, MP-219A, MP-222B, MP-224B, MP-238AR, MP-241AR, MP-249B, MP-276, MP-303B, MP-304, MP-304A, MP-305, and MP-305A.

Based on my observations, the CMI sampling team completed the work in compliance with the QAPP and SAP. The Eagon sampling team was well organized, knowledgeable, and had an efficient preparation, decontamination, sampling, and sample-handling system in place. There were no significant issues identified in the field that would affect data quality.

Please call me at 614.214.6879 should you have any questions.

2015 CMT GW Audit  
GROUND WATER SAMPLING FIELD AUDIT CHECKLIST

October 12 & 13, 2015

A. GENERAL INFORMATION

1. BFI Site: Cecos Alter Road Facility
2. Audit Dates: Oct 12-13, 2015
3. Sampling Crew Company Name and Address: Eagon Associates
4. Sampling Crew names and number of times at site: Andy Graham (12)  
Chris Gordon (12) Nick Kaseem (12)
5. Who is responsible for Health and Safety: Andy Graham
6. Has Crew reviewed the site Health and Safety Plan: Yes
7. Is there a Site Specific Sampling Plan: Yes
  - a. If yes, has sampling crew reviewed Sampling Plan: Yes
  - b. If no, what is the SOP that is followed for sampling this site: N/A
8. Has crew read BFI Corporate Sampling SOP: N/A
9. Has crew read the EPA's 1986 or 1992 TEGD: N/A
10. Has crew read the EPA's Subtitle "D" Final Rule: N/A
11. Who packs sampling crew's equipment and bottles: Eagon (eq.) Test America (bottles)
12. Who decontaminates field equipment between sites: Eagon
13. Were instruments calibrated before coming to site: Yes
14. Have crew members read own SOP or manufacturer's instructions for instrument operations: Yes
15. Have arrangements been made with all labs that samples are to be delivered to: Yes - TA courier picks up samples as needed
16. Has crew signed in daily: Yes
17. Have arrangements been made with BFI site contact: Yes - Dan Deboerde
18. Where are all keys stored: All locks keyed alike - Eagon has set / set in keybox in lab.
19. Vehicle used: 2 Ford F150 pickup trucks

Comments: \_\_\_\_\_

B. INITIAL MONITORING

1. Is air monitored immediately upon the opening of the well inner cap: N/A
2. Are procedures needed for immiscible layer detection: N/A
  - a. If so, are they followed: N/A

AUDIT/93

Matthew Barnett  
The Mannick & Smith Group  
1800 Indian Wood Circle  
Maumee, OH 43537  
(419) 891-2222

3. Is initial water level measured to the nearest .01 foot: Yes
4. Is a place marked on the well indicating the point where the water level is to be measured from every time: Yes - marks on OED well cap
5. Are all initial water levels measured within twenty-four (24) hours: Yes
6. Is the total well depth measured to the nearest .01 foot: No - dedicated pumps
7. Is the water level indicator line and probe wiped with a DI water moistened napkin as the probe is being reeled up/what are water level indicator line decontamination procedures: Yes - Iquinox spray followed by DI water
8. Is the probe decontaminated between wells: Yes
  - a. How: Iquinox spray → DI Rinse
9. Is the well condition recorded on a well condition log: Yes

TO: measured during pump maintenance

Comments: \_\_\_\_\_

### C. PURGING

1. What type of purge devices are used: dedicated bladder pumps
  - a. If Bailer: N/A
    - Is bailer stored in the well: N/A
    - During storage, is bailer hung from the inner cap by a PVC or stainless steel hook: N/A
    - How often is line replaced: N/A
    - What is bailer line made of: N/A
    - How is bailing line, hook, and lowering mechanism decontaminated between wells: N/A
    - Is care taken when raising and lowering bailer to ensure water and well integrity: N/A
    - What is bailer made of: N/A
    - Does bailer touch the ground or any other contaminating source: N/A
  - b. If Pump: dedicated OED bladder pumps
    - What is power source: compressed gas cylinders
    - If a generator is used, where is generator located while well is being purged: N/A
    - If a generator is used, is gas and generator transported with samples or sample containers: N/A

If yes, what QA/QC measures are taken to monitor or avoid possible contamination:

N/A

- Who is responsible for pump and power source maintenance: Eagon
  - Is pump dedicated to the well: Yes
  - Is purging equipment operated and maintained properly: Yes
2. Is well purged in a way that will insure water and well integrity: Yes - low flow/minimum purger
3. What type of disposable gloves are being used: powdered nitrile
4. Are gloves changed when soiled: Yes - between purging/sampling & between wells
5. Is well volume calculated: Yes
6. Is total volume purged recorded: Yes
7. How is total volume purged measured: calculated by purge rate & elapsed time
8. Is purge rate recorded: Yes - on field log
9. Are beginning date and times recorded: Yes
10. How is purge water being handled: 5 gal buckets at well head, buckets discharged to LCS in CMZ building
11. Are any wells being purged to dryness: No
- a. At what point is the well being called dry: N/A
  - b. Is one (1) to three (3) volumes being purged: N/A
  - c. Is the well being purged more than once before sampling: N/A
  - d. Is the field log noted that the well went dry: N/A
12. Are any wells being purged to three (3) volumes: No - low flow/min purger
13. Are stabilization measurements taken: Yes
- a. If so, which parameters: DW, pH, Temp, SC, Turb
  - b. Is so, have meters been calibrated on same day: Yes
  - c. If so, have meters been checked with standards before starting individual well measurements: Yes
  - d. If so, are measurements recorded on stabilization log: Yes
14. Is field log maintained at well head: Yes
15. Is water level measured after purge: Yes

Comments: \_\_\_\_\_

#### D. SAMPLING

1. Is water level measured at time of sampling: Yes
2. Is date and time of sampling recorded: Yes
3. Method used for sampling: dedicated Diaphragm pump

4. Are analytes being sampled in order of their volatilization sensitivity: Yes
5. Analyte order: VOC TOC PCBs
6. Is bailer lowered and raised to avoid agitation of water: N/A
7. Is pump rate acceptable to sample volatile compounds: Yes
8. Is water transferred to containers carefully: Yes
9. Are samples transferred from sampling device to its compatible containers: Yes - from dedicated pump tubing to lab supplied bottle
10. Is care being taken to avoid placing clean sampling equipment and bottles on the ground or other contaminated surface: Yes
11. Are samples preserved properly: Yes - are preserved by TA
12. Are sample containers cleaned according to 1986 TEGD: N/A
13. Is well sequence recorded: Yes - chain of custody
14. What indicator parameters are being measured in the field: pH, Temp, SC, turb
15. Are four (4) replicates being measured for field measurements: N/A  
Comments: \_\_\_\_\_
16. Are meters calibrated according to manufacturers instructions: Yes
17. How often are meters checked with standard solution: daily - in AM prior to sampling
18. Is standard solution changed daily: Yes
19. Are measurements of standard solution recorded on field log: on calibration log
20. Are meter identification recorded: Yes
21. Are meter probes rinsed with deionized water between wells: Yes
22. Are meter probes decontaminated between sites according to manufacturers instructions: Yes
23. Have meter batteries been changed within the past six (6) months: Yes
24. Are clean, chemically inert gloves being worn throughout sampling process: Yes - unpowdered nitrile
25. Are weather conditions being recorded: Yes
26. Are sample characteristics being recorded: Yes
27. Are analyte collection order, sample containers, preservatives, and tests to be performed being recorded: Yes
28. Is comment section being utilized: as needed
29. Is field log being signed on the same date as the sampling taking place: Yes
30. Is field data checked with past field data: as needed

Comments: \_\_\_\_\_

## E. HANDLING

1. Is well closed and locked: Yes
2. When were bottles preserved: Yes → prepreserved by TA
3. Do bottle labels contain:
  - a. Sample I.D. # Yes - unique sample number
  - b. Name of collector Initials
  - c. Date and time of collection Yes
  - d. Place of collection Yes
  - e. Parameters requested General → VOCs, TOC, PCBs
4. Are any parameters filtered: N/A
  - a. How: N/A
5. Is non-dedicated equipment decontaminated according to the 1986 TEGD: N/A
6. Are samples cooled to  $\leq 4^{\circ}\text{C}$  immediately: Yes → placed in ice filled cooler @ wellhead
7. Are custody seals placed on individual bottles of sample shuttle kits: NO → placed on coolers prior to shipment
8. Are equipment and samples being transported with any equipment fuel: N/A
9. What are potential contaminants of equipment and samples during transport between wells and between site and lab: airborne dirt → dust, vehicle exhaust, etc.
10. Are field blanks used, at least, in a one (1) in twenty (20) ratio: 1 per day
11. Where does field water come from: Test America supplies water
12. Is every parameter tested with the field blank: Yes
13. Are trip blanks used, at least, in a one (1) in twenty (20) ratio: 1 TA per cooler that contains VOC samples
14. Is every parameter tested with the trip blank: VOCs only
15. Are duplicate samples used, at least, in a one (1) in twenty (20) ratio: 1:10 ratio
16. Is every parameter tested with the duplicate: Yes
17. Is water collected for Matrix spikes: Yes
18. Are equipment rinsate blanks used, at least, in a one (1) in twenty (20) ratio: NO → 1 per day
19. Are field parameters of QA/QC samples, measured and recorded on field logs: Yes → QA/QC samples have own field form
20. Are all of the parameters affected by non-dedicated equipment tested with the equipment rinsate blank: N/A
21. Is all non-dedicated equipment that comes into contact with the well water tested with an equipment rinsate blank: N/A
22. Are samples packed to avoid breakage, spillage, or cross-contamination: Yes
23. Is a chain-of-custody record included with each sample: Yes
24. Does the chain-of-custody document the following:
  - a. Sample Number: Yes → unique sample number

- b. Signature of collector: Yes
- c. Date and time of collection: Yes
- d. Sample type: Yes
- e. I.D. of well: No → unique sample number - well ID# on reference sheet w/ Andy G.
- f. Number of containers: Yes
- g. Parameters requested: Yes
- h. Signatures of persons involved in the chain-of-possession: Yes
- i. Inclusive dates of possession: Yes
25. Is sample analysis request included with samples: Yes → on COC
26. Does sample analysis request document the following:
- Name of person receiving the sample: Yes → on COC
  - Laboratory sample number (if different from field number): on COC
  - Date of sample receipt: on COC
  - Analyses to be performed (including desired analytical method and PQL): on COC → PQL pre-approved
  - Information that may be useful to the laboratory (e.g. Health and Safety precautions): if needed → comment section on COC
27. Is BFI field log being used: CMI field log
28. How are samples being delivered and when: Test America courier  
as needed
29. Is water temperature being checked and recorded upon receipt at lab: Yes

Comments: \_\_\_\_\_

### CMI Parameter List & Containers:

VOCs - 3x40 mL glass vials w/ septum  
- pre preserved w/ HCL

TDC - 2x40 mL glass vials w/ septum  
- pre preserved w/ HCL

PCBs - 2x250 mL amber glass  
- unpreserved

**EXHIBIT NO. 7**





**TRILLIUM** INC.  
Consultants in Environmental Chemistry

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November 19, 2015

Mr. Daniel Deborde  
Republic Services  
5092 Aber Road  
Williamsburg, OH 45176

RE: Review of Performance Evaluation (PE) and Project Quality Control (QC) Results

Dear Mr. Deborde:

I have completed my evaluation of the PE and QC sample results associated with analyses performed by TestAmerica Buffalo on ground water samples from the Aber Road Landfill site. The samples were collected October 12-13, 2015, and analyzed for volatile organic compounds (VOCs, EPA 8260C), polychlorinated biphenyls (PCBs, EPA 8082A), and total organic carbon (TOC, EPA 9060A). A Level 2 report for TestAmerica Job ID 480-89211 was received by Trillium for review on November 6, 2015. Unless otherwise specified in this report, my review was based on the information contained in this laboratory report.

#### **Performance Evaluation Samples**

In lieu of a laboratory audit, three double-blind PE samples for project-specific VOCs were included in the October 2015 sampling and analysis program. The custom PE samples were prepared by ERA in Golden, Colorado, according to specifications provided to them by me, in consultation with Mike Gibson of Eagon & Associates, Inc. Nine 40-mL sample vials containing the custom PE sample preserved with HCl were shipped directly to Andy Graham in Williamsburg, Ohio, for his receipt on October 9, 2015.

To ensure that the PE samples were not identifiable as such by the laboratory, the PE samples were not labeled when shipped from ERA. In the field, the PE samples were given false sampling locations including dates and times of collection on the chain of custody records to appear as though they were samples collected at the site. The nine 40-ml PE samples were split into three samples that were submitted to the laboratory. The sample IDs used for the three PE samples were GW-101215-NK-002, FB-101215-NK-009, and GW-101215-CG-013 (see

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Attachment A). Labels routinely provided by the laboratory for this project were used on all of the PE sample containers. All of the samples from this sampling event were received by the laboratory on October 15, 2015.

The certified concentrations of the six target analytes included in the PE samples may be found on the Certificate of Analysis provided by ERA and included in Attachment B. Results for all six target analytes in the PE samples were within the acceptance limits established by ERA except for 1,1,1-trichloroethane in GW-101215-CG-013:

Analyte	Certified Value ug/L	Measured Concentrations (ug/L)			Acceptance Limits (ug/L)
		GW-101215- NK-002	FB-101215- NK-009	GW-101215- CG-013	
Benzene	4.13	3.9	3.8	3.8	3.23 - 4.94
1,2-Dichloroethane	92.0	92	100*	100*	73.2 - 114
1,1-Dichloroethene	27.2	32	30	30	18.5 - 36.4
Cis-1,2-Dichloroethene	3.49	3.3	3.4	3.5	2.74 - 4.28
1,1,1-Trichloroethane	63.9	71	75	79	45.7 - 78.0
Trichloroethene	6.24	6.1	6.2	6.3	4.62 - 7.48

*\* reported from a 2-fold dilution*

The undiluted sample result for 1,1,1-trichloroethane for GW-101215-CG-013 was 79 ug/L which was greater than the upper acceptance limit of 78.0 ug/L set by ERA. The laboratory also reported the results for a 2-fold dilution for this sample in order to dilute the concentration of 1,2-dichloroethane into the calibration range. The result for 1,1,1-trichloroethane for GW-101215-CG-013 run at a 2-fold dilution, 73 ug/L, was within ERA's acceptance limits. Trillium used the undiluted value for 1,1,1-trichloroethane because it was the least dilute analysis of GW-101215-CG-013 within the calibration range.

Compared to the certified values, the spiked analytes had recoveries ranging from 92% to 124%. The 124% recovery result was for 1,1,1-trichloroethane for GW-101215-CG-013. Precision across the triplicate analyses was also very good, with percent relative standard deviations ranging from 2% (benzene and trichloroethene) to 5% (1,1,1-trichloroethane).

Overall, the PE sample results reported by the laboratory demonstrate good accuracy and precision for analysis of these VOCs pursuant to EPA 8260C.



## **Analytical Quality Control Results**

### Volatile Organics (EPA 8260C)

Based on the summary forms provided in the Level 2 report, no QC issues were encountered during analysis of the site samples for VOCs. Recoveries of all three surrogate compounds (94% to 117%) were within the surrogate-specific acceptance limits in all reported analyses.

Five method blanks and five laboratory control samples were analyzed with the submitted samples. No target analytes were detected in the blanks, and recoveries of the four spiked analytes, 89% to 106%, were within the laboratory-specified, analyte-specific acceptance limits. The four spiked compounds were 1,1-dichloroethene, benzene, chlorobenzene, and trichloroethene.

Two matrix spike/matrix spike duplicate (MS/MSD) pairs were prepared and analyzed with the submitted samples. Reported recoveries of the four reported spiked analytes (1,1-dichloroethene, benzene, chlorobenzene, and trichloroethene) were acceptable for both spiked analyses of GW-101315-NK-022 (99% to 116%) and GW-101215-NK-011 (100% to 112%). Excellent reproducibility was demonstrated for the paired measured concentrations, with relative percent differences (RPDs) ranging from 3% to 8%. Note that the laboratory's case narrative states that the recoveries for the MS/MSD for analytical batch 480-270349 were outside the control limits. However, the recoveries for the four reported spiked analytes (1,1-dichloroethene, benzene, chlorobenzene, and trichloroethene) in the MS/MSD for analytical batch 480-270349, which spiked GW-101315-NK-022, had acceptable recoveries (99% to 116%). Additional compounds including 1,1,1-trichloroethane and 1,2-dichloroethane were spiked in GW-101315-NK-022 for the MS/MSD and the results reported in the Target Compound Quantitation Reports (pages 782 to 788) in the Level 4 data package. The MS/MSD recovery for 1,1,1-trichloroethane was 137% and 111% with an RPD of 25% and for 1,2-dichloroethane the recoveries were 128% and 0% with an RPD of 116%. No MS/MSD acceptance limits were given for 1,1,1-trichloroethane and 1,2-dichloroethane. The laboratory qualified 1,1,1-trichloroethane and 1,2-dichloroethane in sample GW-101315-NK-022 as "F1" meaning "MS and/or MSD recovery is outside the acceptance limits."

Two field blanks, two equipment blanks, and one trip blank were submitted for analysis during this sampling event (see Attachment A). A low concentration of acetone (3.2 J µg/L) was reported in equipment blank EB-101315-NK-029. Since acetone was not reported in any of the site samples, this blank contamination has no effect on the sample results. Note that the sample ID of one of the field blanks FB-101215-AG-005 was mislabeled as GW-101215-AG-005 on the laboratory forms.

Three field duplicate samples GW-101215-CG-015, GW-101215-NK-019, and GW-101315-AG-032 were submitted for analysis during this sampling event (see Attachment A). GW-101215-CG-015 was the field duplicate of GW-101215-CG-014, GW-101215-NK-019 was



the field duplicate of GW-101215-NK-018, and GW-101315-AG-032 was the field duplicate of GW-101315-AG-031. Paired positive results showed acceptable reproducibility (11 RPD and 12 RPD).

The samples were analyzed for volatile organics within 14 days of collection, which is within the method-specified maximum holding time of 14 days from collection for acidified and refrigerated water samples. Note that the date of collection for the PE samples was November 12, 2015 on the chain of custody, however, the sample preparation date by ERA was November 8, 2015. Based on the PE preparation date, the undiluted analysis of the PE samples were all within 14 days of sample preparation. However, the 2-fold dilution of FB-101215-NK-009 and GW-101215-CG-013 was analyzed on day 15 after sample preparation by ERA. Assuming the samples were properly stored prior to analysis, it is unlikely that a one-day delay had a significant effect on the sample results.

Acceptable cooler temperatures (2.1°C to 3.9°C) were documented in the narrative. Acidification of the PE samples with hydrochloric acid (HCl) was documented by ERA (see Attachment B), but no documentation of pH measurements was found in the Level 2 laboratory report. In the Level 4 data package, acceptable pHs of <2 were documented for all of the samples in this data set on the GC/MS VOA Worksheets (pages 803-813).

#### Polychlorinated Biphenyls (EPA 8082A)

Based on the summary forms provided in the Level 2 report, no QC issues were encountered during analysis of the site samples for PCBs. Recoveries of both surrogate compounds (33% to 114%) were within the laboratory-specified acceptance limits (QC 24-150%) in all reported analyses.

Two method blanks and two laboratory control samples were prepared and analyzed with the submitted samples. No target analytes were detected in either of these blanks. Recoveries of PCB-1016 and PCB-1260 (72% to 87%) in the laboratory control samples were within the laboratory-specified, analyte-specific acceptance limits in both control samples.

Two MS/MSD pairs were prepared and analyzed with the submitted samples. All reported recoveries were acceptable for both spiked analyses of GW-101215-NK-011 (74-95%) and GW-101315-NK-022 (58% to 95%). Acceptable reproducibility was demonstrated for the paired measured concentrations, with RPDs ranging from 2% to 16%.

Two field blanks and two equipment blanks were submitted for analysis during this sampling event. No PCBs were detected in either field blank. Note that the sample ID of one of the field blanks FB-101215-AG-005 was mislabeled as GW-101215-AG-005 on the laboratory forms.

Two field duplicate samples GW-101215-CG-015 and GW-101215-NK-019 were submitted for analysis during this sampling event (see Attachment A). GW-101215-CG-015 was



the field duplicate of GW-101215-CG-014 and GW-101215-NK-019 was the field duplicate of GW-101215-NK-018. No PCBs were detected in the samples.

The samples were extracted on 10/21/15 (eight to nine days after collection) and analyzed on 10/22/15 and 10/23/15. Method 8082A does not specify a maximum holding time for collection to extraction; a holding time of 40 days from extraction to analysis is recommended, and was met for these analyses.

#### Total Organic Carbon (EPA 9060A)

Based on the summary forms provided in the Level 2 report, no QC issues were encountered during analysis of the site samples for TOC.

Three method blanks and three laboratory control samples were prepared and analyzed with the submitted samples. TOC was not detected in the method blank for analysis batch 270968. However, TOC was detected in both method blanks run with analytical batch 270770 at 0.601 J and 0.576 J mg/L. The laboratory qualified all detected results for TOC run in analytical batch 270770 with a "B" indicating "compound was found in the blank and sample." Recoveries of TOC in the laboratory control samples (96% to 102%) were within the laboratory-specified acceptance limits of 85-115%.

Two MS/MSD pairs were prepared and analyzed for TOC with the submitted samples. The reported recoveries were acceptable for both spiked analyses of GW-101215-NK-011 (104% and 106%) and GW-101315-NK-022 (96% and 97%). Excellent reproducibility was demonstrated for both pairs of measurements, with RPDs of 2% and 1%, respectively. Acceptable recoveries, 94% and 91%, were also obtained for the MS prepared and analyzed on GW-101215-NK-018 and EB-101315-NK-029, respectively.

Samples GW-101215-NK-012 and GW-101315-NK-028 were analyzed in duplicate by the laboratory. Paired positive results for TOC showed acceptable reproducibility (6 RPD and 3 RPD) in both cases.

Two field blanks and two equipment blanks were submitted for analysis during this sampling event (Attachment A). No TOC was detected in the field or equipment blanks. Note that the sample ID of one of the field blanks FB-101215-AG-005 was mislabeled as GW-101215-AG-005 on the laboratory forms.

Two field duplicate samples GW-101215-CG-015 and GW-101215-NK-019 were submitted for analysis during this sampling event (see Attachment A). GW-101215-CG-015 was the field duplicate of GW-101215-CG-014 and GW-101215-NK-019 was the field duplicate of GW-101215-NK-018. Paired positive results for TOC showed acceptable reproducibility (1 RPD and 0 RPD) in both cases.

Mr. Daniel Deborde

November 19, 2015

Page 6 of 6

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Equipment blank EB-101315-NK-029 was prepared as a matrix spike for TOC. It must be noted that QC analyses using equipment blanks provide no useful information for evaluation of site sample results.

This concludes my review of the PE and analytical QC results generated in association with the October 2015 sampling event at Aber Road Landfill. Please let me know if you have any questions.

Regards,

A handwritten signature in black ink, appearing to read "Michael C. Hadka", written over the word "Regards,".

Michael C. Hadka, Ph.D.  
Chemist

MCH/hrs



Attachment A

**Michael Hadka**

---

**From:** "Mike Gibson" <mgibson@eagon.cc>  
**Date:** Thursday, November 12, 2015 4:09 PM  
**To:** "Michael Hadka" <mhadka@trilliuminc.com>  
**Cc:** "Daniel Deborde" <ddeborde@republicservices.com>; "Joe Montello" <JMontello@republicservices.com>  
**Attach:** Oct15\_EventSummTbl.pdf  
**Subject:** RE: CECOS Aber Road October 2015 CMI PE sample results

Michael, The sample ID key for all samples is attached.

Michael T. Gibson, CPG | Senior Hydrogeologist | *Eagon & Associates, Inc.*  
100 West Old Wilson Bridge Road | Suite 115 | Worthington, OH 43085  
Tel. 614.888.5760 | Mob. 614.565.0158 | Fax 614.888.5763 | Email [mgibson@eagon.cc](mailto:mgibson@eagon.cc)

---

**From:** Mike Gibson [mailto:mgibson@eagon.cc]  
**Sent:** Thursday, November 12, 2015 3:55 PM  
**To:** 'Michael Hadka'  
**Cc:** 'Daniel Deborde'; 'Joe Montello'  
**Subject:** RE: CECOS Aber Road October 2015 CMI PE sample results

See below.

Michael T. Gibson, CPG | Senior Hydrogeologist | *Eagon & Associates, Inc.*  
100 West Old Wilson Bridge Road | Suite 115 | Worthington, OH 43085  
Tel. 614.888.5760 | Mob. 614.565.0158 | Fax 614.888.5763 | Email [mgibson@eagon.cc](mailto:mgibson@eagon.cc)

---

**From:** Michael Hadka [mailto:mhadka@trilliuminc.com]  
**Sent:** Thursday, November 12, 2015 3:42 PM  
**To:** Mike Gibson  
**Cc:** Daniel Deborde; Joe Montello  
**Subject:** Re: CECOS Aber Road October 2015 CMI PE sample results

Thanks. I am working on the report.

I need to confirm the following:

Is FB-101315-AG-020 a field blank? YES  
Are EB-101315-NK-021 and EB-101315-NK-029 equipment blanks? YES  
Are there any field duplicates that you would like me to look at? The duplicate samples are: GW-101215-CG-015 (Dup of GW-101215-CG-014) , GW-101215-NK-019 (Dup of GW -101215-NK-018), & GW-101315-AG-032 (Dup of GW-101315-AG-031)

Michael Hadka  
Trillium, Inc.  
Phone: 610-873-2691  
Fax: 610-873-2692  
[www.trilliuminc.com](http://www.trilliuminc.com)

IMPORTANT NOTICE: This e-mail and any attachments may contain confidential or sensitive information which is, or may be, legally privileged or otherwise protected by law from further disclosure. It is intended only for the addressee. If you received this in error or from someone who was not authorized to send it to you, please do not distribute, copy or use it or any attachments. Please

11/19/2015



notify the sender immediately by reply e-mail and delete this from your system. Thank you for your cooperation.

**From:** Mike Gibson  
**Sent:** Friday, November 06, 2015 3:18 PM  
**To:** Mike Hadka  
**Cc:** Daniel Deborde ; Joe Montello  
**Subject:** CECOS Aber Road October 2015 CMI PE sample results

Michael,

Attached is TestAmerica's level 2 report for the October 2015 CMI event. TA also provides a larger level 4 version of the report. Let me know if you need to see that.

The PE samples are GW-101215-NK-002, FB-101215-NK-009, and GW-101215-CG-013. Needless to say, the "FB" result caught the lab's attention. We told them that these were special samples and that to go ahead and report the results.

Let me know if you have any questions.

Thanks,

Mike

Michael T. Gibson, CPG | Senior Hydrogeologist | *Eagon & Associates, Inc.*  
100 West Old Wilson Bridge Road | Suite 115 | Worthington, OH 43085  
Tel. 614.888.5760 | Mob. 614.565.0158 | Fax 614.888.5763 | Email [mgibson@eagon.cc](mailto:mgibson@eagon.cc)

**OCTOBER 2015 GROUND-WATER MONITORING SUMMARY  
CORRECTIVE MEASURES IMPLEMENTATION PROGRAM  
CECOS-ABER ROAD FACILITY**

Well/ Underdrain	Sample Collected:		Sample I.D.	Monitored Zone	Annual Sampling (Fall - 4th Qtr)*
	Date	Time			
Monitoring Wells Outside Slurry Wall					
MP-207	10/12/15	1510	GW-101215-NK-008	Upper Sand	COI/TCL VOCs, TOC, PCBs
MP-208	10/12/15	1536	GW-101215-NK-010	880 Zone Sand	COI/TCL VOCs, TOC, PCBs
MP-238AR	10/13/15	1021	GW-101315-NK-026	880 Zone Sand	COI/TCL VOCs, TOC, PCBs
MP-241AR	10/13/15	1030	GW-101315-CG-027	880 Zone Sand	COI/TCL VOCs, TOC, PCBs
MP-249B	10/12/15	1447	GW-101215-CG-007	880 Zone Sand	COI/TCL VOCs, TOC, PCBs
MP-275	10/12/15	1223	GW-101215-CG-014	880 Zone Sand	COI/TCL VOCs, TOC, PCBs
MP-276	10/12/15	1621	GW-101215-NK-011	880 Zone Sand	COI/TCL VOCs, TOC, PCBs
MP-299B	10/12/15	1756	GW-101215-CG-016	Upper Sand	COI/TCL VOCs, TOC, PCBs
MP-303B	10/12/15	1659	GW-101215-NK-012	Upper Sand	COI/TCL VOCs, TOC, PCBs
MP-304	10/12/15	1415	GW-101215-CG-004	BTI	COI/TCL VOCs, TOC, PCBs
MP-304A	10/12/15	1359	GW-101215-NK-006	880 Zone Sand	COI/TCL VOCs, TOC, PCBs
MP-305	10/12/15	1329	GW-101215-NK-001	BTI	COI/TCL VOCs, TOC, PCBs
MP-305A	10/12/15	1259	GW-101215-CG-003	880 Zone Sand	COI/TCL VOCs, TOC, PCBs
MP-306A	10/12/15	1743	GW-101215-NK-018	880 Zone Sand	COI/TCL VOCs, TOC, PCBs
Monitoring Wells Inside Slurry Wall					
MP-202	10/13/15	0940	GW-101315-CG-023	880 Zone Sand	COI/TCL VOCs, TOC, PCBs
MP-219A	10/13/15	1130	GW-101315-NK-028	880 Zone Sand	COI/TCL VOCs, TOC, PCBs
MP-222B	10/13/15	0843	GW-101315-NK-022	Upper Sand	COI/TCL VOCs, TOC, PCBs
MP-224B	10/13/15	0931	GW-101315-NK-024	Upper Sand	COI/TCL VOCs, TOC, PCBs
MP-246	10/13/15	1301	GW-101315-NK-030	Upper Sand	COI/TCL VOCs, TOC, PCBs
MP-248B	10/12/15	1851	GW-101215-CG-017	880 Zone Sand	COI/TCL VOCs, TOC, PCBs
Additional Monitoring Well (See Footnote)					
MP-290B	10/13/15	0934	GW-101315-AG-025	Upper Sand	DMP & COI/TCL VOCs
Underdrains					
U-11	10/13/15	1250	GW-101315-AG-031	—	COI/TCL & DMP VOCs, TOC, PCBs
U-12	10/13/15	1314	GW-101315-AG-033	—	COI/TCL & DMP VOCs, TOC, PCBs
QA/QC Samples					
Duplicate - CMI #1	10/12/15	1723	GW-101215-CG-015	**	COI/TCL VOCs, TOC, PCBs
Duplicate - CMI #2	10/12/15	1743	GW-101215-NK-019	**	COI/TCL VOCs, TOC, PCBs
Duplicate - CMI #3	10/13/15	1250	GW-101315-AG-032	**	COI/TCL VOCs, TOC, PCBs
Equip. Blank - CMI #1	10/13/15	0810	EB-101315-NK-021	**	COI/TCL VOCs, TOC, PCBs
Equip. Blank - CMI #2	10/13/15	1100	EB-101315-NK-029	**	COI/TCL VOCs, TOC, PCBs
Field Blank - CMI #1	10/12/15	1350	FB-101215-AG-005	**	COI/TCL VOCs, TOC, PCBs
Field Blank - CMI #2	10/13/15	0845	FB-101315-AG-020	**	COI/TCL VOCs, TOC, PCBs
Matrix Spike-CMI #1	10/12/15	1621	GW-101215-NK-011-MS	**	COI/TCL VOCs, TOC, PCBs
Matrix Spike Dup.-CMI #1	10/12/15	1621	GW-101215-NK-011-MSD	**	COI/TCL VOCs, TOC, PCBs
Matrix Spike-CMI #2	10/13/15	0843	GW-101315-NK-022-MS	**	COI/TCL VOCs, TOC, PCBs
Matrix Spike Dup.-CMI #2	10/13/15	0843	GW-101315-NK-022-MSD	**	COI/TCL VOCs, TOC, PCBs
Lab Audit Blank (1)	10/12/15	1259	GW-101215-NK-002	—	COI/TCL VOCs
Lab Audit Blank (2)	10/12/15	1500	FB-101215-NK-009	--	COI/TCL VOCs
Lab Audit Blank (3)	10/12/15	1617	GW-101215-CG-013	--	COI/TCL VOCs
Trip Blanks	***	***	***	**	COI/TCL VOCs

\* - TOC and PCB samples are collected as part of the TSCA program.

\*\* - Duplicates and equipment and field blanks are collected at a rate of 1 per 10 samples; matrix spikes 1 per 20 samples; and trip blanks at a rate of one per shipment of VOC samples.

Note: MP-290B is sampled as an additional well per USEPA request to monitor sanitary landfill.



Attachment B



A Waters Company

October 9, 2015

Michael Hadka  
Trillium Inc  
520 Peck Road,  
Downingtown, PA 19335

Dear Michael:

Enclosed please find the certified values for the whole volume double blind performance evaluation samples that were recently ordered by Daniel Deborde. The samples were shipped on October 8, 2015 via FedEx Priority over-night service to Andy Graham in Worthington, OH. The ERA project number corresponding to these samples is 0917-15-01.

Thank you for choosing ERA for this project. If you have any questions or if we can be of any further assistance please do not hesitate to call.

Sincerely,

Chad Lane  
Chemist

enclosures  
cl



**ERA, A Waters Company**  
**Sample Identification and Chain of Custody Form**

<p><b>Ship to:</b> Eagon &amp; Associates          100 Old Wilson Bridge Road          Suite 115          Worthington, OH 43085</p> <p><b>Phone:</b>  <b>Fax:</b>  <b>Attention:</b> Andy Graham</p>	<p><b>Ship from:</b> ERA, A Waters Company          16431 Table Mountain Parkway          Golden, CO 80403</p> <p><b>Phone:</b> 800-372-0122 or 303-431-8454  <b>Fax:</b> 303-421-0159  <b>Contact:</b> Chad Lane</p>
--	---

[illegible]

		Condition of Contents
Relinquished by: <i>Chad M...</i>	Date/Time: <i>8-20-2011</i>	
Received by:	Date/Time:	
Relinquished by:	Date/Time:	
Received by:	Date/Time:	
Relinquished by:	Date/Time:	
Received by:	Date/Time:	



A Waters Company

Reference Material

# • Certificate of Analysis •

Product: Custom Standard  
Catalog Number: D95  
Lot No: 0917-15-01  
Certificate Issue Date: October 8, 2015  
Expiration Date: na  
Revision Number: Original

## CERTIFICATION

Parameter	Certified Value <sup>1</sup>	Uncertainty <sup>2</sup>	QC Performance		NIST Traceability <sup>4</sup>	
	µg/L	%	Acceptance Limits <sup>3</sup>		SRM#	Recovery %
Benzene	4.13	2.10	3.23	- 4.94	na	na
1,2-Dichloroethane	92.0	1.66	73.2	- 114	na	na
1,1-Dichloroethylene	27.3	1.83	18.5	- 36.4	na	na
cis-1,2-Dichloroethylene	3.49	1.61	2.74	- 4.28	na	na
1,1,1-Trichloroethane	63.9	1.74	45.7	- 78.0	na	na
Trichloroethylene	6.24	2.05	4.92	- 7.48	na	na

Matrix: 18 megohm deionized water with HCl  
Density: na  
Storage: 4±2°C  
Manufacturing Notes: The sample is ready for preparation and analysis as received.

1. The Certified Values are equal to 100% of the "made to" values as determined by volumetric and/or gravimetric measurements made during the manufacture of this product.

2. The stated Uncertainty is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and (as noted) internal analytical verification of the product by ERA, multiplied by a coverage factor. The uncertainty applies to the product as supplied and does not take into account any required or optional dilution and/or preparations the laboratory may perform while using this product.

3. The Performance Acceptance Limits (PALs™) are listed as guidelines for acceptable analytical results given the limitations of the USEPA methodologies commonly used to determine these parameters and closely approximate the 95% confidence interval. The PALs™ are based on analytical verification data generated by ERA, independent reference laboratory results and/or data from USEPA methods, WP, VYS and CLP interlaboratory studies. Recovery and advisory range data for these studies are based on ERA's normal manufacturing ranges. The PALs™ listed for this Benzene, cis-1,2-Dichloroethylene and Trichloroethylene may not be applicable since the analyte concentration is outside of ERA's normal manufacturing range and a linear relationship to the concentration listed has not been established. If your results fall outside of the PALs™, ERA recommends that you investigate potential sources of error in your preparation and/or analytical procedures. For further technical assistance, call ERA at 1-800-372-0122.

4. Where NIST Standard Reference Materials (SRMs) are available, each analyte has been analytically traced to the NIST SRM listed. Traceability Recovery % = [(% recovery certified standard)/(% recovery NIST SRM)] \* 100. The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or send an email to [info@erasqc.com](mailto:info@erasqc.com).

Certifying Officer:  
Brian Miller

Quality Officer:  
Kristina Sanchez

*Brian Miller*

*Kristina Sanchez*

**EXHIBIT NO. 8**

# DAT Reports®

## Data Analysis Technologies, Inc.

7715 Corporate Blvd.  
Plain City, OH 43064  
800-733-8644

## Sample Analysis Certificate

Client: Eagon & Associates  
Address: Suite 320  
Columbus, OH

Date: 8/5/2015  
DAT Project ID: 0715027  
Date Received: 7/16/2015


Attn: Mike Gibson  
Client Project: CECOS-Aber Rd (MOVVP)  
Analysis: Method 25E

The following samples were received on 7/16/2015:

DAT Sample ID	Client Sample ID	Date Sampled	Matrix
0715027-1	MOVVP Influent	7/15/2015	Aqueous
0715027-2	MOVVP Influent Duplicate	7/15/2015	Aqueous
0715027-3	MOVVP Influent Duplicate Dup	7/15/2015	Aqueous

**Results:** See attached summary.

**QC:** Met the criteria for the method.



Reviewed and approved for release by:

Ronald K. Mitchum, Ph.D.  
President, DAT



# DAT Reports®

## Data Summary

### Method 25E / Organic Vapor Pressure

**Client:** Eagon and Associates  
**Client Project:** Cecos Aber Rd. MOVP  
**DAT Project:** 0715027  
**Date Sampled:** 7/15/2015  
**Date Received:** 7/16/2015  
**Date Analyzed:** 7/30/2015  
**Analyst:** SM  
**P(bar), in Hg:** 30.00 7/30/2015

Client ID	DAT ID	Analysis		Vapor Pressure, psi
		Temperature, °C	ppm VOC	
MOVP Influent	0715027-1	24	1835.7	0.027
MOVP Influent duplicate	0715027-2	24	1454.3	0.021
MOVP Influent duplicate dup	0715027-3	24	1334.0	0.020
blank		24	2.44	0.000

P(bar) = Local barometric pressure

ppm = Headspace concentration (v/v) as propane

Vapor Pressure (psi) =  $k \times \text{ppm} \times P(\text{bar (in Hg)})$

$k = 4.91 \times 10^{-7} \text{ psi/[ (in Hg) (ppm) ]}$

# DAT Reports®

## QC Summary

### Method 25E / Organic Vapor Pressure

**Client:** Eagon and Associates  
**Client Project:** Cecos Aber Rd. MOVP  
**DAT Project:** 0715027

**Date Analyzed:** 7/30/2015  
**Analyst:** SM  
**P(bar), in Hg:** 30.00

Sample ID	Concentration	ppm VOC, Run 1	ppm VOC, Run 2	ppm VOC, Run 3	ppm VOC, Avg.	% RSD
Low Standard	1000 ppm	1037	1095	1085	1072	2.9
Mid Standard	5000 ppm	5073	5375	4964	5137	4.1
High Standard	10000 ppm	10165	10024	9567	9919	3.2

---

% RSD Limit: 5.0 Max



Data/Analysis Technologies, Inc.

"Analytical Laboratories and Consultants"

SERIAL No 29305

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

7715 CORPORATE BLVD.  
PLAIN CITY, OHIO 43064  
614-873-0710 800-733-8644  
FAX 614-873-0810

PROJECT REFERENCE <b>CEQS-Aber Rd (MOVP)</b>		PROJECT NO.		P.O. NUMBER		MATRIX TYPE		REQUIRED ANALYSIS				PAGE 1 OF 1													
PROJECT LOC. (State)		SAMPLER(S) NAME <b>Chris Gordon</b>		PHONE <b>(614) 888-5760</b>		FAX <b>(614) 888-5763</b>		<div>MOVP</div>				<input checked="" type="checkbox"/> STANDARD REPORT DELIVERY <input type="checkbox"/> EXPEDITED REPORT DELIVERY (SURCHARGE)													
CLIENT NAME <b>Eagon &amp; Associates, Inc.</b>		CLIENT PROJECT MANAGER <b>Mike Gibson</b>																							
CLIENT ADDRESS (CITY, STATE, ZIP) <b>100 W. Old Wilson Bridge Rd., Suite 115, Worthington OH 43085</b>												DATE DUE													
SAMPLE DATE		TIME		DAT NO.		SAMPLE IDENTIFICATION		NUMBER OF CONTAINERS SUBMITTED				REMARKS													
7/15/15		14:45				MOVP Influent		3																	
7/15/15		14:45				MOVP Influent duplicate		3																	
7/15/15		14:45				MOVP Influent duplicate dup		3																	
RELINQUISHED BY (SIGNATURE) <b>Chris Gordon</b>												DATE <b>7/16/15</b>		TIME <b>09:00</b>		RELINQUISHED BY (SIGNATURE) <b>Sean Robertson</b>		DATE <b>7/16/15</b>		TIME <b>1229</b>					
RECEIVED BY (SIGNATURE)												DATE		TIME		RECEIVED BY (SIGNATURE)		DATE		TIME					
LABORATORY USE ONLY												RECEIVED FOR LABORATORY BY (SIGNATURE) <b>Chris Gordon</b>		DATE <b>7-16-15</b>		TIME <b>1226</b>		CUSTODY INTACT <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		CUSTODY SEAL NO <b>—</b>		DAT LOG NO <b>0715027</b>		LABORATORY REMARKS	

# DAT SAMPLE RECEIVING

7715 Corporate Blvd. Plain City, OH 43064.

**Project Number:** 0715027

<b>Date Received:</b> 7/16/2015	<b>Carrier:</b> Hand Delivery
<b>Client Name:</b> Eagon & Associates	<b>Analysis:</b> Method 25E
<b>Tracking number:</b> NA	<b>Package Temp:</b> 10 C on ice
<b>Custody Seals ?</b> No	<b>COC:</b> <input checked="" type="checkbox"/> check if COC from client

## Sample Information

Client ID	Laboratory ID	Date	Matrix	Container	Comment
MOVP Influent	0715027- 1A/B/C/D/E/F/G/ H/I	7/15/2015	Aqueous Liquid	40ml VOA Vials	

AA

Laboratory Receiving Initials

0715027

7/16/2015 12:47:29 PM

# DAT Labs Inc. Sample Receipt Report

Client/Number: Egon and Associates / 10391

Custodian Initial: AA Date: 7-16-2015

The client has been contacted.

☐ Yes

☐ No

Secondary Review: Initials: \_\_\_\_\_ Date: \_\_\_\_\_

Upon receipt of samples, check if any of the following discrepancies have been noted.

Discrepancy Type	Specify applicable client ID or "all"
COC and samples do not match	
No unique sample identifications	
Samples received outside of the required temp criteria. Receipt Temp: <u>10°</u> C	
No preservation type was noted Correction Factor: _____ C	
No date of collection stated Corrected Temp: _____ C	
No time of collection stated	
The sample collector was not named	
Sample containers were not appropriate	
Sample labels were destroyed or unreadable	
Samples were received outside of holding time	
There was not enough sample to perform the requested analysis.	
Samples showed sign of damage or contamination.	
Aqueous samples for volatile analysis: Headspace? Y N If Yes, list sample ID(s) in details:	

Details: \_\_\_\_\_

Sample pH for nonvolatile aqueous samples and presence or absence of headspace (Y or N) for VOA aqueous samples shall be recorded at time of sample log-in.  
Under no circumstances shall VOA vials be opened at time of sample receipt.

Other Discrepancies:

Sample ID

Discrepancy

Container Return

Yes / No

Price:

Size:

Return Spl wt:



Upon receipt, the samples met all of DAT's acceptance criteria.

DAT Project #

0715027

<b><i>FIELD INFORMATION FORM</i></b>																								
<b>Site Name:</b>		<u>Cecos - Aber Rd.</u>					<b>Sample Point:</b>		<u>CMI Leachate Influent</u>															
WELL DATA	<b>Water-Level Date</b>		<div><div></div><div></div><div></div><div></div><div></div><div></div></div> (MM DD YY)		<b>Water-Level Time</b>		<div><div></div><div></div><div></div><div></div><div></div><div></div></div> (2400 Hr Clock)		<b>Purge/Sample Method:</b> LF = Low Flow P = Peristaltic Dry = Dry X = Other <u>Dry</u>															
	<b>Well Elevation (at TOC)</b>		<div><div></div><div></div><div></div><div></div><div></div><div></div></div> (ft/mal)		<b>Depth to Water (DTW) (from TOC)</b>		<div><div></div><div></div><div></div><div></div><div></div><div></div></div> (ft)		<b>Groundwater Elevation (site datum, from TOC)</b>			<div><div></div><div></div><div></div><div></div><div></div><div></div></div> (ft/msl)												
	<b>Total Well Depth (from TOC)</b>		<div><div></div><div></div><div></div><div></div><div></div><div></div></div> (R)		<b>Water Column Height (well depth - DTW)</b>		<div><div></div><div></div><div></div><div></div><div></div><div></div></div> (ft)		<b>Casing ID</b>			<div><div></div><div></div><div></div><div></div><div></div><div></div></div> (in)												
PURGE/SAMPLE EQUIPMENT	<b>Purging and Sampling Equipment...Dedicated</b>				<input checked="" type="checkbox"/> Y or <input type="checkbox"/> N		<b>Filter Device</b>					<input checked="" type="checkbox"/> Y or <input type="checkbox"/> N		<u>0.45µ</u> or _____ µ (circle or fill in)										
	<b>Purging Device</b>		<div><div></div><div></div><div></div><div></div><div></div><div></div></div> A-Submersible Pump B-Peristaltic Pump C-Bellows Pump D-Bailer E-Piston Pump F-Dipper/Bottle				<b>Pump Type (Vol)</b>		<div><div></div><div></div><div></div><div></div><div></div><div></div></div> A-P1200M (495 ml) B-P1101M (395 ml) A-3/8" ID (22 ml/ft) B-1/4" ID (10 ml/ft)				<b>X-Other</b>		<div><div></div><div></div><div></div><div></div><div></div><div></div></div> C-P1150 (130 ml) X-Other C-0.17 ID (4.5 ml/ft) X-Other									
	<b>Tubing ID (Vol/Ft)</b>		<div><div></div><div></div><div></div><div></div><div></div><div></div></div>																					
PURGE INFO	<b>PURGE DATE</b>		<div><div></div><div></div><div></div><div></div><div></div><div></div></div> (MM DD YY)		<b>START PURGE TIME</b>		<div><div></div><div></div><div></div><div></div><div></div><div></div></div> (2400 Hr Clock)		<b>ELAPSED HRS</b>		<div><div></div><div></div><div></div><div></div><div></div><div></div></div> (hrs:min)		<b>WATER VOL (L : Gal) IN (PUMP/TUBING/WELL CASING)</b>		<b>ACTUAL VOL PURGED (Liters : Gallons)</b>		<b>(PUMP/TUBING/WELL VOLS PURGED (optional))</b>							
STABILIZATION DATA	<b>Time (2400 Hr Clock)</b>		<b>DTW (ft)</b>		<b>Vol. Purged ( L : Gals ) circle one</b>		<b>pH (std)</b>		<b>Conductance (umhos/cm)</b>		<b>Temp (°C)</b>		<b>Turbidity (ntu)</b>		<b>Rate (ml/min)</b>									
Suggested range for 3 concoc. readings or Permit/Stat. requirements may be entered in spaces provided above (optional).																								
SAMPLE DATA	<b>SAMPLE DATE (MM DD YY)</b>			<b>SAMPLE TIME (2400 Hr Clock)</b>			<b>VOL PURGED ( L : Gals ) circle one</b>			<b>pH (std)</b>			<b>CONDUCTANCE (umhos/cm)</b>			<b>TEMP (°C)</b>			<b>TURBIDITY (ntu)</b>			<b>RATE (ml/min)</b>		
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FIELD COMMENTS	<b>Sample Appearance:</b> _____ <b>Odor:</b> <u>Strong</u> <b>Color:</b> <u>Dark Green</u> <b>Other:</b> _____																							
	<b>Weather Conditions (at sample time): Wind Speed/Direction:</b> _____ <b>Air Temp:</b> <u>-BDP</u> <b>Precipitation:</b> Y or ☉																							
	<b>Specific Comment: (including purge/well volume calculations if required):</b>																							
	<u>Sample collected from influent tank in LTS building; samples collected by decanting into sample containers from polypropylene beaker.</u>																							
	<u>Samples collected: MOVP</u>																							
I certify that sampling procedures were in accordance with applicable EPA, State, and Site protocols: Date <u>7/15/15</u> Name <u>Chris Gordon</u> Signature <u>[Signature]</u> Company <u>Eagon &amp; Associates, Inc.</u>																								